

Heaven Palace?
Learning From Gated High-rise Living.
The Case Study of Changsha

Master Thesis
06/05/2014

Xiang Ding
Nordic Program
Sustainable Urban Transition

Aalto University. School of Arts, Design and Architecture
KTH University. School of Architecture and Built Environment

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The Case Study of Changsha”

Supervisor:

Professor Kimmo Lapintie
from Aalto University /
Professor Peter Brokking
from KTH University.

Course staff:

Professor Kimmo Lapintie
Post doc researcher Mina di Marino
Architect Hossam Hewidy
Dr Architect Helena Teräväinen
Aalto University, Espoo, Finland 2014

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Questionnaire

Q1. Which of the following residential community do you live in?

- A. Vaya Garden
- B. Jiashenghuating
- C. Lijingxiangshan
- D. Zhonglongyixi
- E. Hualing New Landmark
- F. Others ()

Q2. Why do you choose to live here?

- A. Convenient transportation system
- B. Nice landscape design
- C. Nice architectural design
- D. Guarantee of safety
- E. Reasonable Price
- F. Entertainment and leisure infrastructure
- G. Others ()

Q3. Which floor are you living on?

- A. 1st-5th
- B. 6th-10th
- C. 11st-20th

D.20th –

Q4. Why do you choose to live on this floor?

(Multiple)

- A.This height is with a good view
- B.It is a lucky number
- C.It is a reasonable price
- D.Safety issues
- E.Others()

Q5.Do you usually have any outdoor activities inside your district? (Multiple)

- A.No, I only stay at home
- B.Yes, I do some physical exercise
- C.Yes, I stroll the street with my families
- D.Yes, since the kids need to be taken out
- E.Others ()

Q6. How often do you have outdoor activities inside your district in a week?

- A.Never
- B.Once or twice
- C.3-4 times
- D.Everyday

Q7. Why did you choose to have outdoor activities inside your district?

- A.The sports field and space are available within walking distance.
- B.The greenery provides nice visual and environmental surroundings
- C.The equipment and facilities are available
- D.Safety consideration
- E.Activities with neighbors
- F.Others()

Q8. Where do you usually buy fresh vegetable and meat?

- A.Supermarket inside the community
- B.Supermarket near the community
- C.Temporary market near the community
- D.Local wet market
- E.Others()

Q9. How often do you buy fresh vegetable and meat in a week?

- A.Never
- B.Once or twice
- C.3-4 times
- D.Almost everyday

Q10. Why did you choose to buy them here?

- A.They are available within walking distance
- B.Reasonable price
- C.They are fresh and of good quality
- D.They are on my way home, why not
- E.Others()

Q11. Do you consume in the night market near your district?

- A.Never

B.Food

C.Costumes

D.Small articles of daily use

E.Others()

Q12. How often do you consume in the night market in a week?

- A.Never
- B.Once or twice
- C.3-4 times
- D.Almost everyday

Q13. Why do you consume in the night market?

- A.Available within walking distance
- B.Cheap price
- C.Delicious and good quality
- D.It is on my way home, why not?
- E.Never.
- F.Others()

Q14. If you go to other communities nearby, what would you do there? (Multiple)

- A.Visit the garden with nice outdoor environment
- B.Do exercise (including dancing, sports and so on)
- C.Collective activities (public cinema, shows)
- D.Visiting friends and relatives
- E.Leisure (beauty saloN, bridge, chess, majiang)
- F.Never
- G.Others ()

Q15. How often do you go to other communities nearby in a week?

- A.Never
- B.Once or twice
- C.3-4 times
- D.Almost everyday

Q16. Why do you think are the reasons that you go to other communities?

- A.The greenery provides nice visual and environmental surroundings
- B.The sports field and equipment are available within walking distance.
- C.Leisure and entertainment activities
- D.Relatives and friends
- E.Others()

Q17. What are your advices to improve the living inside the community?

Q18. What are your advices to improve the living outside the community?

Q19. How old are you?

- A.1-19
- B.20-39
- C.40-59
- D.60-

Q20. What is your gender?

- A.Male
- B.Female

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Abstract:

Gated high-rise living has become the most popular housing for middle-class citizens in China recently. The traditional definition of Chinese community has been changed and merchandized by liberation of housing market in 1980s. Technology, urban population growth and high profits empowered the boom of high-rise living. Gated high-rise living stands out in the suburbs distinctively with its physical density and social implications, separating the suburban fabric. Why is gated high-rise living prevailing in China? How does a high-rise gated community form symbolic and physical barriers for its homeowners and a new dimension of social segregation in Changsha? How can public and private spaces be re-defined on the peripheral skirt between gated communities and its surroundings?

The aim of the research is to define gated high-rise communities in the suburban context in China, to learn about physical form, interfaces, archetypes and daily lives from the objective, and to give guidance to future design.

Literature review will give explanations about the phenomenon of gated high rise living, its characteristics and reasons for its formation. The research will be grounded to Changsha, rapidly urbanizing city in the central south China. Regional scale investigation will be focused on housing, living and the city. At the local scale, observations, visual documentary, interviews and questionnaires are combined to reflect on the daily lives in gated high rise communities.

Large areas of suburban land have been zoned, gated and privatized, which leave the suburb to be patched with enclaves. The pursuit of profit and state policy allowance are the main reasons for high-rise living. Social inequality and income gap formed of physical and social borders. Urban space between the enclaves and the interfaces are neglected. The high-density inside the gate calls for more public infrastructures, while the residents outside the gate have to get into the community for urban greenery. Comparison between the lives outside and inside the community inspires further design.

The speed of sprawling gated high rise communities can be slowed down, while waiting for the infrastructures and population to catch up. Neglected urban spaces need to be studied, in order to be improved. Social segregation should be minimized and residents of different social status have the right to be merged for common good. Residents' customs and innovations for operating urban space should be respected and studied.

Chapter 1. Introduction

The existing research on gated communities or high-rise living in China is obviously not enough, especially with regard to sustainability and livability, in cities that are experiencing high-speed urbanization. In 2011, the central government of China developed a plan to construct 36 million affordable housing units in the following five years, and have invested 1,300 billion RMB to build 10 million in 2011 (National Development and Reform Commission, 2011), which will further promote the development of high-rise living. An ambitious project in the near future makes it important to investigate the already built gated high-rise living projects, learn from their current situation, and collect feedback from the residents. The lessons will guide more sustainable future. Consequently, this thesis focuses on gated high-rise living, and its residents' daily lives in the inner city of Changsha, China.

1.1 Gated Communities

Gated communities (GC) have existed for a long time; residents of traditional walled villages belonged to a clan and had common ancestors are examples of its early versions (Ruggeri, 2007: 103). What is a GC today? 'To include desirables and exclude undesirables, the real estate market has ended up creating cities with empty or privatized public spaces' (Davis, 1990; Kayden, 2000; Kim, 2012; Loukaitou-Sideris & Banerjee, 1998; Smith & Low, 2005; Vale, 2002). The inhabitants of a GC share only the dream of living in a safe and socially homogeneous environment (Ruggeri, 2007: 103). A GC is a tripartite game among developers, local government and middle-class homeowners, Kovács & Hegedűs (2014)

Developers tend to produce high-density housing developments that provide some commonly owned goods and services in order to maximize profit. Local government seeks to attract affluent taxpayers to increase their income, without investing in local infrastructure and public goods. Finally, homeowners want to live in well-constructed private spaces with exclusive access to a wide range of amenities. (Vesselinov, Cazessus& Falk, 2007; Logan & Moloth, 1987,)

Pow (2009:9) delineated three categories of gated community, depending on inclusion and exclusion issues: The first category defines the GC by its physical border, as 'residential developments sur-

rounded by walls, fences, or earth banks covered with bushes and shrubs with secured entrances' (Low, 2003:12); the second group emphasizes that gated communities are 'residential areas with restricted access, where normally public spaces are privatized (Blakely and Snyder, 1997:2)';

Gated communities normally provide their inhabitants with exclusive public goods (e.g. swimming pool, playground, green spaces) at a higher quality and efficiency than the local governments, which is a key to their global success. (Webster, 2002)

For the last one, 'security zone community', is mainly created out of fear of crime and outsiders. Kovács & Hegedűs (2014) concluded in their paper that while security plays role in the decision to reside in a GC, but it was not the main factor. Another classification by Kovács & Hegedűs (2014) depends on the size, layout, architectural style, and services. Since most of the gated communities in my study are similar in their inclusion / exclusion and public privatization properties, the physical scale categorization is used to analyses the case study GCs.

Post socialist gated communities

According to Gentile, Tammatu, and Van Kempen (2012), 'the socialist city was an ideology-based archetype of homo-polis where egalitarianism, mass housing construction, and standardization prevailed'. Similar patterns can be found in many other post-socialist cities in Eastern Europe, and many disagree whether the post socialist gated communities 'could be labelled communities. Indeed, residents do not consider themselves as members of a community' (Smigiel, 2014) Liberation of the economy (especially the land market) and decentralization of power were two cornerstones of the transition (Kovács & Hegedűs, 2014; Smigiel, 2014; J.Ga, decki, 2014), which paint the overall image of the birth of GCs. 'housing reform in Socialist economy (1990) and enabling the markets to work (1993) and established neo-liberal policy regimes at the national as well as urban level' (Smigiel, 2014). This is how repressed individualism and thirst for privacy in the market economy was satiated. Smigiel (2014) also stated that,

'The arrival of international developers has led to a standardization and internationalization of gated community production... gated commu-

nities appear as standardized and fully subordinated, developed space... segregated landscapes only because of a neo-liberal policy setting whose main policy pillars are deregulation, decentralization, privatization and commodification.'

Interfaces

The morphology of the public/ private interface plays a critical role in supporting street life (K. Dovey and F. Symons, 2013). When the edges of streets and public spaces work, they reinforce city life. Similarly, 'If the edge fails, the space never really becomes lively.' (Alexander, 1977:600) In her well-known theory, Jacobs (1961: 39) concluded 'streets and their sidewalks, the main public places in a city, are its most vital organs', she also described how the sense of safety is constructed based on community surveillance from the neighbors, especially on the ground floor. However, even though the interfaces of GCs play important roles in weaving the new suburban context, they are not taken into enough consideration, and the clear physical and social border between inside and outside discourages the possibility of lively urbanism.

1.2 High rise living

Unité d'Habitation in Marseilles (1947-52) was Le Corbusier's experiment, to raise residents high up and build their own community in the air. When the architectural experiment was enlarged to the urban planning scale, Le Corbusier represented his Ideal City. The design maintained the idea of high-rise housing blocks, free circulation and abundant green spaces, solar exposure, and separated transportation routes. Green parks are also mentioned as main characteristics of high rise living (Mumford, 2000). Additionally, it was important to reduce commuting times by locating industrial zones close to residential ones and buffering them with wide parks and sports areas. Street widths and requirements were scientifically worked out to accommodate the speed and type of transport.

Hong Kong and Singapore have the highest urban densities in the world: the high-rises in Hong Kong are a result of its topography, historical development and land policy. In Singapore, its topology and population density brought about high-rises (Yeh and Yuen, 2011). A compact urban form is perceived to be a sustainable urban solution that can not only contain urban sprawl but also conserve the environment (Yeh & Li, 2000), and the density of population support

coverage of public transportation (Newman & Kenworthy, 1989). Quoting from Li & Jones (2012),

Compared to other residential types, the high-rise is a more sustainable housing form and has some advantages of sustainability, such as less land consumption (Rudlin and Falk, 1999, Jenkins et al., 2007), higher energy efficiency (Travers, 2001, Lau et al., 2005), lower resource consumption (Barter, 2000, KAJI, 2001), better accessibility to services and facilities (Jenks et al., 1996, Kaido, 2005), and can bring some positive benefits such as spectacular views, privacy, and quietness (Conway and Adams, 1977, Yuen et al., 2006). Accordingly, sunlight, further scenery view and privacy are the byproducts of high-rise living (Conway & Adams, 1977; Johnson, 2002)

Debate on high-rise living and suburbanization have going on for a long time. Dovey and Symon (2013) criticized that towers emerged to meet the desire for density, views, and profits, and car parks emerge from the desire for private transport. Research in developed countries suggests that higher density areas support more facilities and a broader range of services per capita than most lower-density, suburban areas.

Although cities in developing countries may suffer from a lack of infrastructure, they could benefit from higher densities compared to those found in cities of developed countries, creating good accessibility to facilities within walking distances, especially due to their vibrant mixed use patterns of development (Jenks & Burgess, 2000).

However, density alone cannot deliver environmental benefits unless other important design issues are also addressed- for example, mixed land and building areas (Heng Ch. k. & L. Ch. Malone-Lee, 2009). Feminist viewers have criticized industrialized urbanization. Weisman (1994) narrated how the city today has been made to represent male pursuit of bigger and higher world. And the failure of the Pruitt-Igoe gated high-rise community in St. Louis (fig. 1.0), proved that the ideology of a bright vision from the architects and investors does not necessarily work with users and their neighborhoods.

No childcare, shops or recreation facilities, serious vacancy and vandalism prob-

lem... Massive, monotonous and institutionalized high-rise projects like Pruitt-Igoe were built to identify the residents and isolate them from surrounding neighborhoods, and functionalism and economy of scale were used as rationales. (Weisman, 1994:109)

Although planners and socialists all over the world criticized the ideal city, as an extreme planning utopia theory (Jacobs, 1961), its industrial symbol and highly efficient form is globally. The most adamant followers are populated Asian cities trying to find simple ways to solve their congestion problems. Under the current narratives of sustainable development and higher-density urban form, high-rises are increasingly considered to offer the best alternative to suburban sprawl (Burton, 2000). However, researches done in Nordic countries suggests that the development of High-rise Housing Estates (HHEs) in low-density suburbs does not necessarily work in a sustainable way (Turkington et al., 2004).

Floor Area Ratio (F.A.R.)

In the modern planning system, zoning is the first step. Zoning laws are based on local government police power, allowing for protection of the public's health, safety, and general welfare. Incentives offered may include adjustments to allowed development density (i.e. the Bonus FAR), adjustments to building height, open space usage, use or other requirements of the underlying zoning ordinance. Floor Area Ratio (F. A. R.) has become a main figure that modifies the shape of the city in a three dimensional way. What is F. A. R. ? Why is F. A. R. a main value that controls the residential development? $F. A. R. = \text{Gross Floor Area} / \text{Area of Plot}$. Developers have the flexibility to decide whether to build a low building covering most of the lot or a high building covering only a small part of the lot, or in some places, a combination of buildings (City of Tampa, Strategic action plan). The higher the F.A.R. value is, the more the floor area will be within the same plot, and accordingly the higher the pressure on land for infrastructure. 'The goal of real estate investors is maximization of profit, and high F. A. R. is one of the important ways to gain profit' (Peng, 2009) Criticizing F. A. R., Duany, Plater-Zyberk, and Speck (2000) stated that, F. A. R. is a poor predictor of physical form, and should not be used when the objective is to conserve and enhance neighborhood character.



fig. 1.0 'Pruitt-igoeUSGS'

Source: United States Geological Survey

1.3 Residents' Everyday Lives.

Concerns over quality of life and sustainability of high-rise living have never been greater. Good quality of life depends on both the dwelling itself and the environment in which it is located (Turkington et al., 2004). The built environment can only mediate, not form, communities, whether resilient or not (Dovey, 1999). To learn from residents' daily lives and how the regular urban space is resided and redesigned, the discourse of everyday urbanism emerges.

Everyday Urbanism celebrates and builds on every day, ordinary life and reality, with little pretense about the possibility of a perfectible, tidy or ideal built environment... Everyday Urbanism downplays the direct relationship between physical design and social behavior ... culture more than design as a determinant of behavior. (Kelbaugh, 2000)

Housing is the physical stage set up by the government, planners, architects, and developers; and it is the resident who is going to perform. The residents' everyday lives compose the rhythm of the city, and enrich the diversity of the city. Modernized everyday lives in cities are, like the city itself, zoned and functionalized. Everyday behaviors including cooking, eating, sleeping, and working are the targets, from which planners and architects can learn.

The everyday can therefore be defined as a set of functions which connect and join together systems that might appear to be distinct... The everyday is therefore the most universal and the most unique condition, the most social and the most individuated, the most obvious and best hidden. (Lefebvre, 1987)

When it comes to everyday life in the high-rise, contrary to the images of frustration given by photographers (Hawkes, Wolf (fig. 1.1)) of Hong Kong, the residents investigated by Yeh and Yuen (2011) are generally satisfied with their living environment. Thesis result supports, 'the perception of tall buildings and super tall building and the highest floor that one is willing to live in varies from place to place and time to time, depending on the contextual environment.' Their study encourages related research to be localized and contextualized.

Everyday urbanism is a series of functions; they need space and time to be supported. Space includes physical voids, or vacancy, but also, its common political public-private discourse, and accessibility. Sidewalks, streets, roads are left-over from the GCs to become public space, and the gated semi-public spaces in-between the residential buildings are vaguely defined. For the entire building environment outside the towers, what is giving definition to the public space? It results from larger social and economic structures (Castells, 1977; Harvey, 2006; LeFebvre, 1992).

Vacant places could be more sustainable, physically and socially, in the long term. They are 'becoming' and 'found' places, which are not necessarily places without rules, but places where new rules can be continuously invented, places that allow for unexpected uses, and places whose purposes are intentionally left ambiguous, these places will foster a rich diversity (Heng Ch. k. & L. Ch. Malone-Lee, 2009). To allow the diversity in time dimension, temporary urbanism (Bishop and Williams, 2012) is used to define the temporary usage of available urban space. Temporary means 'lasts for only a limited period of time, not permanent.' (Oxford dictionary) In his concept of liquid time, Bauman (2007) emphasizes understanding the need to avoid any shape-related constraints when describing the objectives of a type of urbanism. The 'liquidness' is, like temporary urbanism, 'dynamic and full of possibilities.'



fig 1.1 'Night in Hong Kong'.

Source: URL <<http://photomichaelwolf.com/#night/1>>

Roles

Regardless of planning and design, micro perspectives can be discussed to improve urban quality. Manuel Delgado (2001) stated that, town planners' biggest problem is their intention to generate spaces for obedience, for one single mode of use. On the contrary, what is needed is the ability to filter complexity and learn to discover urban-ness from the streets, from everyday life. By adaptations and transformations, Dovey and Symons (2013) called for transformation of the ways 'in which we think about urban design and planning. 'The city and its designers must be open to and incorporate "the elements that remain elusive: ephemerality, cacophony, multiplicity and simultaneity."' (Chase; Crawford & Kaliski, 1999) Many see the roles switching during a long duration play on the stage of the building environment. Users' participation progressively transform urban space a posteriori. Users may alter the primary objects that furnish a space, and implement any necessary actions, which can be qualified in statistical terms. Architects are encouraged to design uncertain, manipulate-able spaces, where citizens may unconsciously feel at ease (M. Dittmer and A.Bos, 2010)

1.4 Learning from Nordic Cities

The author was fortunate to be involved in the Nordic program of Sustainable Urban Transition, experienced, explored, and learned from Nordic cities, and in relation to the thesis topic, how high-rise living works in the suburb area.

Stockholm

More than 85% of the population in Sweden (8.8 million in 2004) lives in urban areas. To meet the needs of population growth, high-rise housing solves the problems of land shortage or high land cost in urban centers (Turkington et al., 2004). During 1965-1974, the Million Program was implemented; resulting in an increase in Sweden's housing stock of about 650,000 new dwellings (Bygghälsningsrådet, 1990). Improvement projects were also launched in the 1980s, with refurbishments of buildings and facility improvements.

The skyline of Stockholm's city center is strictly controlled, and seldom are any high-rise seen. It is known as the 'Walkable city', and the city center keeps its medieval cityscape and nature habitants. At the same time, various modern methods were taken up (e.g. pedestrian areas, esplanade, and pedestrian priority, and bicycle lanes) to ensure the quality of urban living in the dense center. The open sky provided by the controlled skyline serves to comfort the citizens.

The expanding metro public transport system allows suburban Stockholm to grow North- and South- wards. The average distance between each station and each line allows space for forests (fig. 1.4), where residents and wild animals share the greenery. It is not surprising to see deer jumping in the forest within a 10-minute metro ride from the city center, and the everyman's right assures 'everybody the freedom to roam in the wild'. High- rise residences (fig. 1.3) were located near metro stations in the suburbs, where parking lots, shopping malls, markets (fig. 1.2), community centers and libraries were congregated. The density of the suburban residences related to the distance to the public transport center.

'Sweden has a long tradition of administering and planning from above. However, since the late 1970s, a more decentralized and individualistic approach to planning has been developed. Private corporate initiatives emerged and politicians and corporations expressed their power by building high-rise structures (Imberg, 1991; Caldenby, 1990). Also, tenants became more involved in managing the housing stock (Alfredsson & Cars, 1997).



fig. 1.2 'Farsta center 1' with temporary market in the square-
Source: Author



fig. 1.3 'Farsta center 2'. High rise living tower and parking lot
Source: Author



fig. 1.4 'Högdalen Pet Day'.
Source: Author

Helsinki

'Why are people in Finland so peaceful? Forests, we have forests.' (Movie 'Kahvila Suomi,' 2006)

Helsinki, the capital city of Finland, differs from Stockholm in many ways. Helsinki has a population of 614,074 (Population Register Center of Finland, 31 January 2014). The capital was moved from Turku to Helsinki in 1812. Finland was late to industrialize, but after the 1950s, its rate of urbanization was one of the fastest in Europe. Buildings six stories or above, which are 'taller than the trees' are considered to be high-rise in Finland. They are often found in high density suburban housing estates. With 66% of total stock and 60% of suburban housing owner occupied, Finland can be considered a nation of 'home-owners' (Statistics of Finland, 2000). Unlike the more average network of towns based on the metro system, the Helsinki metropolitan area contains two other sub-centers of Vantaa and Espoo, each independent, and its own municipality. Tapiola (fig. 1.5), in Espoo city, is one of the most famous suburban developments based on the 'garden city' theory. The cultural center and commercial spaces (fig. 1.6) are well organized in the center of Tapiola, where several high-rise towers (fig. 1.7) are situated. Limited public transport leaves space for residents' recreation, summer farming (fig. 1.8) as well as a resort for wild life.

The housing is not without problems. Since 1980s, building refurbishments, infrastructure improvements, and community encouragements were the major solutions. However, by international comparison, Finnish neighborhoods remain of good quality (Turkington et al., 2004). The first reason is that, compared with Le Corbusier's and Gropius' work, Nordic functionalism was characterized by humanism and a greater sensitivity to nature (Wiklund, 1995). Another reason is that, with a flat income distribution and equal rights to education and the welfare system, the Nordic model has provided effective protection against the development of slum (Ministry of the Environment, 1997)

However, the urban context in the case study is very different from the Nordic countries. Planning policy and develop process, social welfare and population are the issues to be compared and discussed.



fig 1.5 'Tapiola center'. with high rise living and cultural center in the background.

Source: Esa Kivivuori



fig. 1.6 'Tapiola 1'. Commercial center and gathering places

Source: Author



fig. 1.7 'Tapiola 2'. High rise living tower

Source: Author



fig. 1.8 'Tapiola 3'. Summer Farming

Source: Author

1.5 Research design

Frame Work

Basic concepts about gated communities and high-rise living are included in Chapter 1, which establishes the macro scale background, at the micro scale, residents and designers' roles and discussed. The Nordic experience is mentioned here especially with regard to the high-rise living in the suburbs. In Chapter 2, a brief history of housing and urbanization will help to establish an understanding of why gated high rise living is prevailing in China. The example of everyday urbanism transforming urban space during the Song Dynasty gives supports for future interventions. Chapter 3 mainly discusses urbanization, and residents' living spaces in the city of Changsha, where the case study is located. After a brief introduction to the city, Chapter 4 will zoom in to the case study area, where details of study are reported, and reflections collected from the residents are analyzed. Finally, Chapter 5 will provide intervention suggestions, based on the analyses and examples.

Research Questions

The development of residential enclaves boomed after the communal governing system liberated the real estate market. Gated communities, which are walled and gated residential neighborhoods, represent a form of urbanism where public spaces are privatized. Gated communities add new dimensions to social segregation. The homeowners struggle to cope with such barriers, symbolically and physically. I suggest the following questions:

How does a high-rise gated community form symbolic and physical barriers for its homeowners and a new dimension of social segregation in Changsha?

How can public and private spaces be re-defined on the peripheral skirt between gated communities and its surroundings?

Research Objectives

The research objective is to investigate whether gated high-rise community forms symbolic and physical barriers for its homeowners and the neighborhood.

Key Words

Gated Community, High-rise Living, Residential Suburbanization, Interfaces and Borders

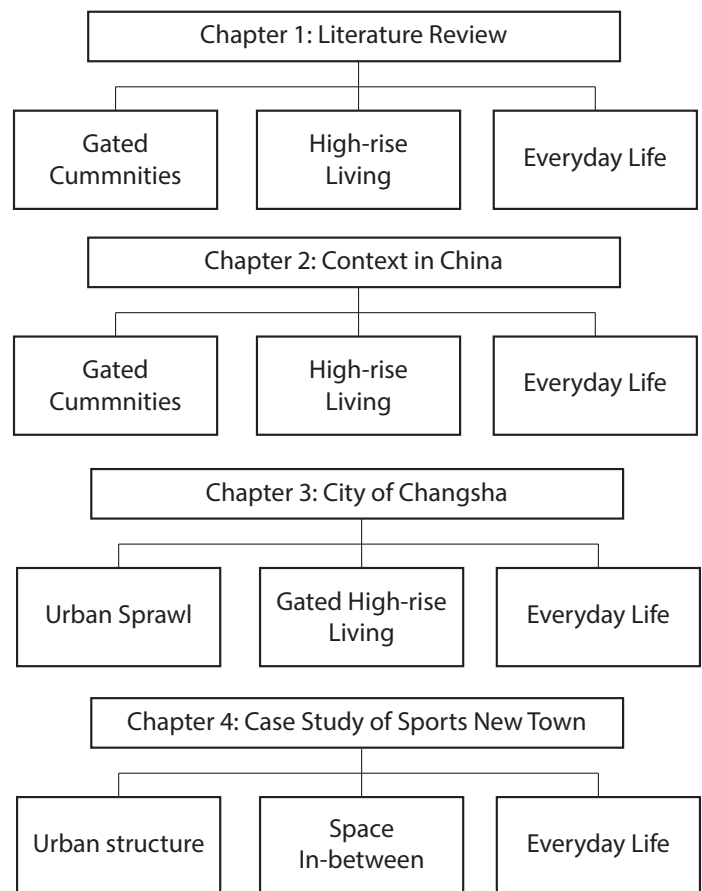


fig. 1.9 'Framework of the Research'.

Source: Author

Methods

Literature review was guided towards three directions: gated community, high-rise living, and everyday life. Gated community is given different definition and classification with different social background, socialist countries share similar context of rapid transition from state communism to state capitalism. High-rise living has its own context and is selectively accepted. In the discussion of everyday life, activities require space and time, and accessibility. Gated high-rise living in China becomes popular, because of its social, political context.

In the macro-context of local case study, methods include literature review, observations, visual documentation, and visual analysis. Large amounts of Observations and visual documentations (photos, google earth) were accomplished on site. Visual analyses are mostly based on comparisons of visual documentation: comparison between different types of topologies, communities, interfaces, and comparison between the design vision and reality. Moreover,

official data have been collected from government statistics. Data on commercial gated communities were collected through a real estate trading website. Existing studies on residential satisfaction concluded that there are two groups of moderators: the personal demographical characteristics of residents, and features of the macro-context (Amerigo and Aragonés, 1997, Adriaanse, 2007).

To objectively address personal demographical characteristics, observations from both real life and virtual life are documented. Observations from real life have been gathered and visualized, and explained on the map. The residents' online forums and blogs are also included as one data source. Questionnaires were the main material for collecting subjective information. Most of the questionnaires were distributed through the Internet and only a few were collected physically. The residents participate in several active online platforms, including a community forum and OICQ (popular chatting software in China) chat groups. The community forum is completely public, where everyone can post their needs and requirements, but most of the forums are filled with advertisements. For residents living in each gated community, there is at least one private community chat group, where only the homeowners are allowed to join. Under the help of H.J. Liu and her friends who are living in neighboring communities, the link of the questionnaire was sent to each chat group. Interestingly, the chat group is also a virtual gated community, where the community connection is more visible than the ones in reality. Discussions in the chat groups about regular living issues are warmly welcomed, especially when conflicts are found between residents and the maintenance company or investors, the chat group becomes a strong social tool that connects the neighbors.

Chapter 2. The context of China

2.1 Context of Ancient China

Gates and walls have been seen representing the Chinese cultural traits of self-restraint, order, and moderation since the time of Confucius (Russell, 1922). Walls and gates have always been important symbolic makers of place in China (Friedmann, 2007)

The planning history of China can be discovered in 'Kao Gong Ji' (before 221 BC) ("The Records of Examination of Craftsman"). It contains urban planning theories for an ideal city in China under Confucian moral system. The ideal city is 'a walled square' with a regular orthogonal grid. The Tang Dynasty (618-907 AD) is described as the golden age of the Confucian model (Victor F S Sit, 2010). The capital of that time, Chang'an is representative of ideal city (fig. 2.1).

The street plan is planned and formed in a hierarchical way. The Imperial Way that forms the north-south central axis of the whole city is the widest, at i.e. 150m. The narrower roads, which run N-S, and E-W cut each other at right angles, form a chess-board pattern and each with a width varying from 40-70m, according to their importance in the network...the Outer City has 12 gates, 3 on each side of the wall...It contains

109 residential wards (fang) that are rigidly laid out in walled square or rectangular quarters, following the Han rule. The West and East markets are located in the Outer City as well.

Chang'an was noted as the largest (87k m²) gated city in the world during that time, filled with traders, visitor, and entertainers from all over the world. To realize its ultimate form of order and control, the Emperor enacted 'Lifang' rules, including a ban on store spill-over, restrictions on places for trading, curfews forbidding overnight entertainment, and so on. To compare the form and spirit of Chinese cities with European cities: westerners sought freedom in the cities, while freedom was relatively repressed in the cities in China, and could only be found by escaping to remote areas with nature (Schirokauer, 1991).

Accompanied by various revolutions that opened up commercial and entertainment industries, the growing economy, in the Song Dynasty (960-1279 AD), which followed the Tang Dynasty, witnessed increased freedom and diversity in cities. First and foremost, breaking the rigid residential wards system 'Lifang' and curfew, allowed for freedom of space and time, as Victor F S Sit summarized:

Dissolution of residential wards and their replacement by open street, and the rigid regulation of the movement and activity of urban residents gave way to increasing citizen freedom. Confined urban markets that opened for half a day disappeared and shopping streets emerged with some shops opened 24 hours a day...

Liveliness is depicted on the picture 'Qing Ming Shang He

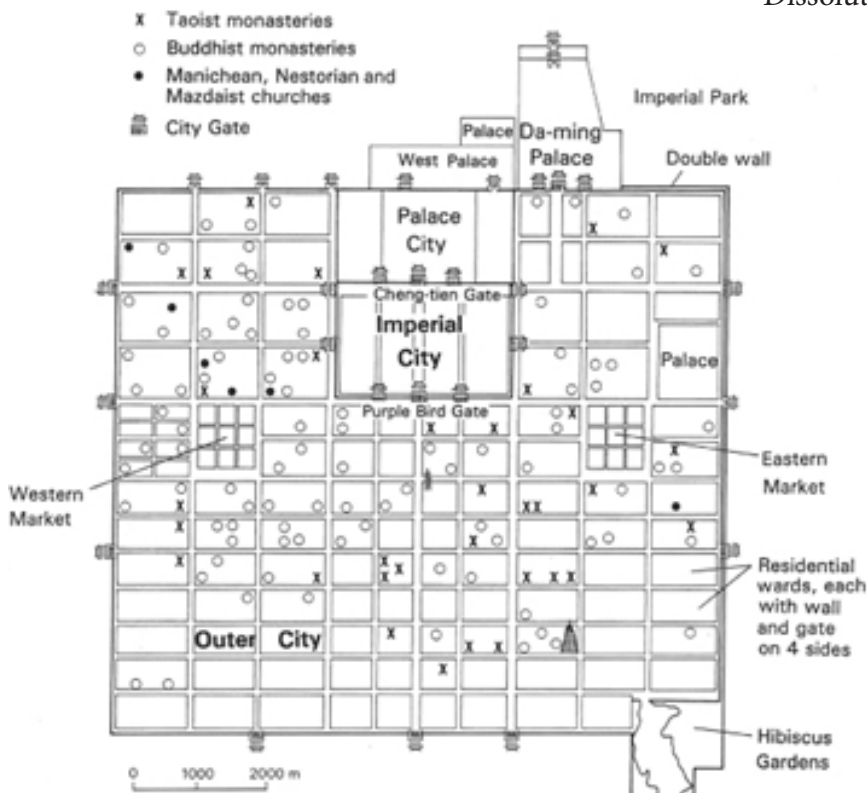


fig. 2.1 'Chang'an during the Sui & the Tang Dynasties'.

Source: Victor F S Sit

Tu', in Kaifeng, the capital city of the Song dynasty. During the festival, free markets emerged in response to increased pedestrian flows (fig. 2.2 & fig. 2.3).

By abolishing the curfew and gated communities in the Tang dynasty, the economy was unprecedentedly progressing. All sorts of markets boosted: day markets, night markets, morning markets, seasonal markets, and temporary markets. All the farmers nearby brought their agricultural products to the streets in the city, and that was the beginning of the wet market. The painting of the Song dynasty shows how people traded in the open-air markets. This tradition of markets has been kept ever since. After the planning economy of Mao, during which

all sorts of market systems were repressed, the opening up policy permitted the recovery of wet market. (Li Zh. 2013)

China witnessed a gradual evolution of urbanization without dramatic changes, during which land use zones continued and commercial and entertainment zones flourished. During the last period of long-term evolution of feudal China, 'the inertia of Confucianism and exogenous forces were blamed for hindering the possibility of industrialization and urbanization of China' (Victor F S Sit, 2010).



fig. 2.2 'Qing Ming Shang He Tu (Part) 1'.
Author: Zhang Zeduan (1085–1145)
Source: wikimedia



fig. 2.3 'Qing Ming Shang He Tu (Part) 2'.
Author: Zhang Zeduan (1085–1145)
Source: wikimedia

2.2 Context of Modern China

China's urbanization has gone through three distinct phases: a rapid decline stage (1960-1978), a stable phase of ascension (1979-1995), and a phase of rapid promotion (1996-2010). State ownership (Kornai, 1992:87-88) and the controlled socialist system supported the privatization of rapid industrialization (Zhang & Zhao, 2003). Since 1995, China's urbanization process has proceeded faster than economic growth. The size of annual increase in the total population was gradually decreasing, while growth of the urban population increased. These two opposite trends were a consequence of the rapid economic development of China. Urbanization level has increased from 19.8% in 1960 to 50.2% in 2010 (Chen & Liu & Tao, 2013). Rapid growing statistics are exciting; however, problems brought about by the rapid growth cannot be neglected. Rapid growth is commonly seen in developing countries. William (1990) stated that, theories such as master planning, zoning by usage, density and plot area control have been tested in developed countries without much success, and they are modified and distorted when they are applied to developing countries.

Rapid urbanization in China was achieved in a short time, and there is possibility that some relevant policies fell behind. Urbanization in China continues the socialist ideal of plain living, which appreciates quantity rather than quality. In other words, the quality of urbanization remains low (Chen & Liu & Tao, 2013). At the same time, land urbanization has been developing much faster than population urbanization. The spatial expansion of cities has escaped from control. The size of built-up urban areas in China increased from 7438 km² in 1981 to 40,058 km² in 2010. Meanwhile the population of migrant rural workers, who cannot afford to live in urban areas, grows steadily. Lim (1990) offers the same reflection:

Roads and physical infrastructure facilities, residential accommodations, air-conditioned shopping centers, etc. have been provided; Roads are crowded with private vehicles. Superficially, great progress appears to have been made, and yet the number of slums and squatters are rapidly increasing. Living conditions of the urban poor are often appalling. Public transport and facilities for personal mobility of the majority have deteriorated; the magnitude of the urban problems is often indirect proportion to the economic growth rate. Population density and

rural poverty increase continuously. The environmental crises of many primate urban centers in the third worlds are now self-evident. (LIM William S.W, 1990:67)

2.3 Housing Policies

During the rapid decline stage (1960-1978), socialist centralized state control policies provided insufficient investment for urban living, which resulted in problematic issues with both quantity and quality of housing. Housing supply had long been short of demand. With the collective conscience of plain living, housing standards were lowered to the minimal function of shielding off wind and sunlight (Victor, 1997).

In the late 1970s when China opened up to the outside world and started economic reform, previously suppressed housing problems broke out across cities (Xu, 1993). The urban population in cities also surged from 79.8 million in 1978 to 217.7 million in 1998 (Lin, 2002). Public provisions were unable to meet the housing demands of the increasing urban population (Institute of Urban Housing, 1992). It is unrealistic to expect an omnipotent housing system to be set up to deal with all housing problems of a developing country with such a giant population and territory (Victor, 1997). The transition of power from the Maoist ideological plan, into the post-Mao market-regulatory regime, ushered in a new development strategy that valued efficiency over equity, individual creativity over collectivism, and regional comparative advantages over defense or ideological considerations (Fan, 1995 & 1997; Lin, 1999).

Housing and living conditions have generally improved with decentralization and suburbanization of commercialized gated communities. Chinese cities present the elements of both advanced capitalist countries and the Third World (Ma & Wu, 2005).

Consumption spaces replace old residential and industrial buildings in the city center; new residential areas are created in the suburbs. For the construction of the new skyline, the cities embrace migrant labors without providing equivalent facilities. The new fragmented suburbs emerge; the landscape is patched with low-status migrant villages and high-status real estates. New residential spaces such as 'gated communities' were built, remarkably distinguishing themselves from old urban areas (Wu, 2005).

Even though housing and living conditions have generally improved, urban inequality is still starkly evident, especially in the area of housing consumption (Pow, 2009). People with rural or temporary household registration status (*hukou*), and those working in the private sector who were disadvantaged in the former socialist housing system continue to be discriminated against in the new housing market (Huang, 2003:611). Chinese society has been experiencing a widening of income gaps, resulting in the formation of class differentiation and social disparity (Pow 2009). Commodity housing, which now dominates most of the new housing supply, is practically beyond the economic means of most low-income and even middle-income households (Huang, 2003; Zhang, 1999).

2.4 Gated communities in China

“Lifang” and its collapse

In the ‘Lifang’ system, as illustrated above (fig. 2.1), ‘Li’ is the unit for measuring the neighborhood divisions, inside the city wall. Each rectangular residential zone in the map above range from 350-650 steps, the administration allowed 100 families to live. Each rectangular ‘Li’ has its own regulations for residents’ social status inside. The strict order of social status is strongly emphasized by the spatial regulations. In order to ensure the rights of private sphere, which are suggested by the *Analects of Confucius*, the wealthy elites erected high walls around their private residences (Moore, 1984:223). However, since the zoning system with gated communities was made irrespective of citizens’ demands, its rules are continuously violated. The orthogonal official roads were evaded by store spill-over, and a strict curfew was violated by night markets.

Collective Community

State-owned-enterprises (SOEs) were the building blocks of state socialism, while the city was not. The socialist city lacked urbanism (Szelenyi, 1996). Seen through Florida’s perspective (2002), ‘The socialist city is a boring place! The landscape was monotonous; mainly comprised of suburban industrial belts and matchbox-like multi-story workers’ apartments.’ Broudehoux (2004) describes the limited use of public space in Maoist period, ‘whose main purpose centered on the production of labor and ideology formation.’

In the Fordist regime, the structural coherence of accumulation is supported by mass production and mass consumption. But this could not be achieved un-

der state socialism. The Chinese government let the market play a dominant role in resource allocation, while maintaining strong state political control. Neo-urbanism facilitates the shift from work-unit-based collective consumption to market-oriented consumption based on commodity housing, and thus paved the way for capital to flow into the built environment.

Commodity Living: Gated Community

In his holistic study of gated communities in China, Pow (2009:28) concluded that the choices of Chinese moving into commodity housing enclaves, after the Mao era, were understandable, given the growing sense of entitlement to individual rights and private life. Developers, who sensed the needs of the middle class, started to invest and market the gated communities. As previously mentioned, Chinese citizens tend to seek freedom in nature, which they could not easily find in the cities. Traditionally, private gardens in China were the spiritual shelter for men of letters and high standing, far away from their real social lives (Lin, 2004).

Investors gate the gardens with walls, fences, and other physical obstacles. Gated communities have reconfigured territorial organization. In the enclaves, residents enjoy greater freedom and autonomy that is, to some extent, independent of the state’s control (Pow, 2009:87). The aestheticized landscape in-between the buildings would match the taste and social status of the residents. Maintenance of the community is commoditized; Management Company is hired to take care of the semi-public space inside the gate.

Social problems have been revealed both inside and outside the gated communities. Neighborhood visiting, as a Chinese tradition, is not common in commodity housing (Pow, 2009: 97). Anonymity and privacy have become a necessity for the middle class in China, to avoid incurring jealousy and trouble (Wu, 2005). This retreat is accompanied by strong recognition of territory, within the walls. The residents announce that all the rights within the gates belong to the paying residents only (Pow, 2009:101:108). Interestingly, Miao (2003:52) argued that the gates and walls are ineffective protection against crime, and at the same time, they create ‘structural conflicts’ for residents’ daily life. Physical and psychological barriers were formed, deserted pavements were left; social disjuncture was created.

2.4 Gated high - rise living in China

After a state ban stopped the flood of low density villas, the suburbs waited to see another extreme---- the arrival of high-rise. Since the 1990s, the arrival of new construction technologies, combined with a growing urban population, have encouraged many large Chinese cities to engage in high-density site planning by building high-rise apartment buildings (Straits Times, 31 May 2003). In China, the oppositional issues of urban sprawl vs. the compact city are manifested as the gated high-rise community in suburban areas. In spite of its own characteristics and context, China has chosen the path that many countries have selected in 1960s, to reduce housing shortages by constructing massive High-rise Housing Estates (HHEs) (Li Ch. G. & Jones P, 2012). Typical gated high-rise residences in China can be described as follows: Replicated gated towers were erected on top of the parking lot, connected by elevators. A few ground floors were elevated to leave public space for community life, where an outdoor gym, Ping-Pong tables, benches, greenery and facilities for children were situated. Industrialization of space was pushed to its limits.

There are several differences between high-rise living in suburban China and the ideal city, firstly, the greenery and space left over by the dense towers, is not accessible for the public; secondly, the mono-functional towers only for living are far from providing the multiple functions, or even the basic needs for the daily life, not to mention the gyms and cafes Le Corbusier designed into his towers. What's more, all the potential public or semi-public space in the towers has been diminished to increase commercial profit and privacy. Finally, the socially equal neighborhood is replaced by suburban enclaves.

Criticizing the form of gated high-rise living in China, Caprotti (2014) described views on the journey to Tianjin Eco-City in China, where eco-buildings are 'significant in size, being mostly over 25 stories in height':

Every residential block is raised one level by the construction of a ground-level, enclosed car parks for every residential development means that every block is, essentially, not only a gated community, but a walled community: the walls begin at the sides of the ground-level car parks. Every block can only be accessed through gates, where (sometimes empty) guard posts stand ready for security personnel to police entry.(F. Caprotti, 2014)

High-rise residences have been criticized for discouraging interaction between people.(William S.W LIM, 1990). Unlike the way Chinese people live traditionally, with emphases on neighborhood contributions, high-rise living breaks community ties. The semi-public spaces, like entrance halls, staircases, and corridors that offer possibilities for interaction have been shrunk to their minimum sizes, and the spatial quality is also questionable (Li M., 2007).

2.5 Overview of Residents' Daily Lives

The strong concept of family for the Chinese has been kept for thousands of years, and filial piety is what distinguishes Chinese from westerner's concept of 'public' concept. Russell (1922) concluded that, 'in Chinese ethics...stress is upon a man's duty to his family rather than to the public.' The concept of public was historically missing, until it exploded at the other extreme. During the Mao era, everything was public. Most of the public spaces in China are monumental, similar to other socialist countries. Residents' real emotions and individualities were repressed in public spaces. The opening up revolution released not only economic growth, but also its people.

Markets

There are three types of markets in Contemporary China: the covered official wet market (fig. 2.4), which is quite functional and with reasonable prices; the temporary road market, usually unofficial, distributed all over the city; and industrialized organized supermarket (Li Zhong & F. Chen, 2009). However, supermarkets are not as popular in China, or most of other Asian countries, because of Asians' widely differing eating habits and fresh food requirements (Li Zh., 2013). The number of wet markets in Chinese cities has increased from 16,450 to 26,381, and the conditions of the markets are also improving. Wet markets (fig. 2.5) in coastal cities have reached the sanitation and environmental standards of supermarket.

Greenery

The green coverage ratio of urbanized areas has now reached 39.2%, and the green space ratio is at 35.3%. Green space per capita is 11.8 m²---- (China Forestry, 2013) The greenery per capita remains low. Unfortunately, the demand for greenery

has been neglected during the rapid urban sprawl and development in China. Urban green space in China is composed of four main types: public greenery represented by parks, botanical gardens, zoos, squares and cemeteries etc; environmental green space contained greeneries within gated properties, including government facilities, hospitals, firms, and residential communities; agricultural areas; and buffer areas where greenery supplies protection, segregation, and safety. Within these categories, public parks, botanical gardens, and zoos charge a small entrance fee; environmental green spaces are either gated or fenced; the two other types are generally not accessible. Except for quantity and accessibility, the quality of public greenery is also controversial. The investors have recognized the limited amount of parks spaces in the city one of the most effective elements to attract residents. It is not rare to see the parks ‘become a basin’ among the high-rise housing (fig. 2.6), (China News, 2007) ‘Not to mention the little public parks in the city center, even Shanghai Botanical Garden and Zoo that are located in the suburb could not escape the encroachment of ‘concrete forests.’ (L. P. Cui, Shanghai Forestry, 2007)

In addition to markets and greenery, citizens also thirst for public facilities, including public transportation, education, cultural facilities, and entertainment. However, public opinions were seldom considered in decision-making during the era of centralized government control (Xu et al. 2003). There are no effective institutional structures to ensure the quality of residential interior design and decoration. In terms of urban neighborhoods, the user-centered planning and management concepts have not been established (Li Ch. G. & Jones P, 2012). Nowadays, since the centrally planned system has been transformed into a market economy, public views are increasingly factoring into policy deliberations and decisions (Jim & Chen, 2003).



fig. 2.4 ‘Wet Market’.
Source: H. J. Liu

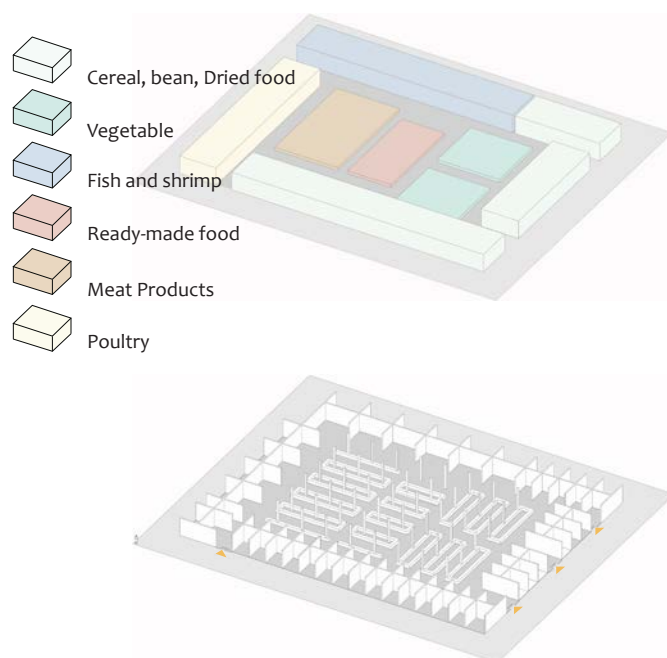


fig. 2.5 ‘Wet Market’.
Source: Author



fig. 2.6 ‘Park Basin’.
Source: <http://citylife.house.sina.com.cn/detail.php?gid=34204>

Chapter 3. The City of Changsha



fig. 3.0 'Location of Changsha'.

Source: <<http://en.wikipedia.org/wiki/Changsha>>

3.1 Brief introduction of Changsha

Changsha is located between 111° 53'–114° 05' E longitude and 27° 51'–28° 40' N latitude, on the lower reach of Xiang River, situated in east central Hunan, as its capital city. With its semi-tropical monsoon climate, Changsha' people experience four distinct seasons. The average temperature is 17.3C°, and annual precipitation is 1361.6mm. With an average temperature of 4.4C°–5.1C°, over-wintering crops can survive out-doors.

Ancient Changsha was settled along the eastern shore of the Xiang River, where it was convenient for trading. The graphic map is shown in the figure (fig.), 100BC, Western Han Dynasty. The gated living system of 'Lifang', as mentioned before, existed in the city during its long history. The city did not change much under feudal society as an inland city in China. The river nourished the local people and supported their daily lives, and Changsha city has retained its form and location for thousands of years (Wang, 2009).

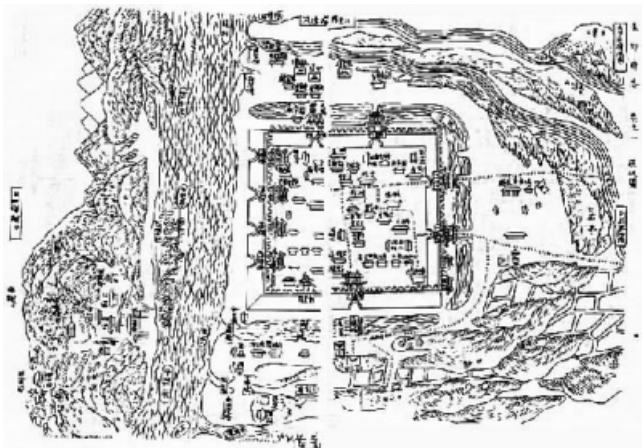


fig. 3.1 'Changsha 1750'.

Source: <<http://www.changsha0731.cnpicctl=photos&act=view&id=1078>>

3.2 Modern Changsha

Changsha made great efforts towards modernization after the feudal society was demolished. Roads with pedestrian paving replaced the old city walls; and factories were moved to the suburbs. In 1921, the first public parks emerged. The first public sports field was planned in 1930 in the city center. Public buses first appeared in the 1933. In 1996, the city was divided into five districts that worked separately and efficiently, and each of them had its own district government (Wang, 2009). These five districts included, Furong, the old town; Yuelu, on the western shore, which included university areas and forests; and Tianxin, Kaifu, Yuhua, surrounding the old town on the eastern shore, which are usually considered as a unit with similar economic structures and degrees of urbanization.

Urban sprawl was triggered first and foremost by the expansion of transportation structure to the suburbs. Since the city has long been growing along the river, longitudinal growth has reached its limit. As shown on the map of 'Urban Design Guidance of Changsha (fig.)' A heavy red line flows along the river, and two other parallel dotted lines are directed East-and West-wards, along which the main bridge and road structures are located. If the Design Guidance is over-laid on the land zoning map (fig.), questions will be raised, as to where the four arrows are heading? The lower east arrow points at the high-speed railway station that was placed in service in 2012, the upper arrow points at the airport, and both of the westward yellow arrows are leading towards the state high ways, shaped by green mountainous areas on the western coast. The upper traffic line connects the two industrial zones (brown) and future Central Business District (CBD) on both sides of the river. The lower traffic line gets lost on the zoning map.

Changsha, as the second largest city in the inner China, sees itself rising in social economy. Meanwhile, suburbanization merges with the change in citizens' consumption structure. Absence of relative experience, the suburbanization meets obstacles and problems: disorder of spatial organization, unbalance of development structure, waste of land resources (especially farm land), destruction of ecological environment, lag of basic infrastructure and manage-

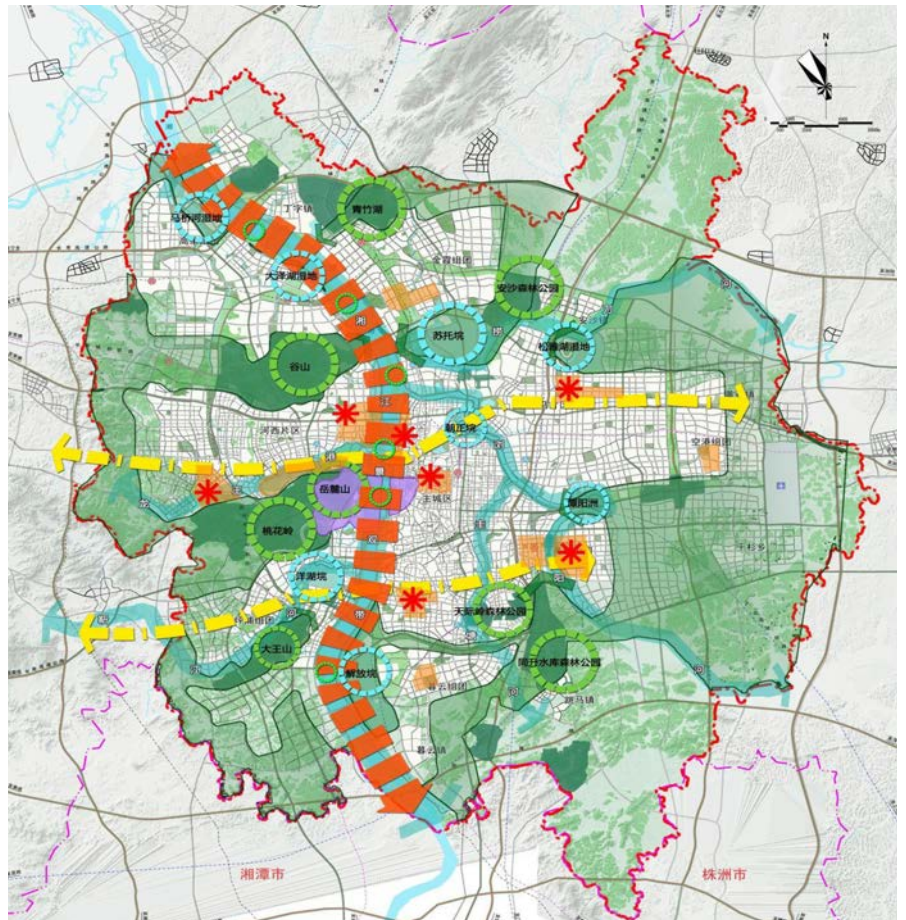


fig. 3.2 'Changsha Urban Design Guidance'.

Source: <<http://www.csup.gov.cn/csup/publish/pubimages/>>

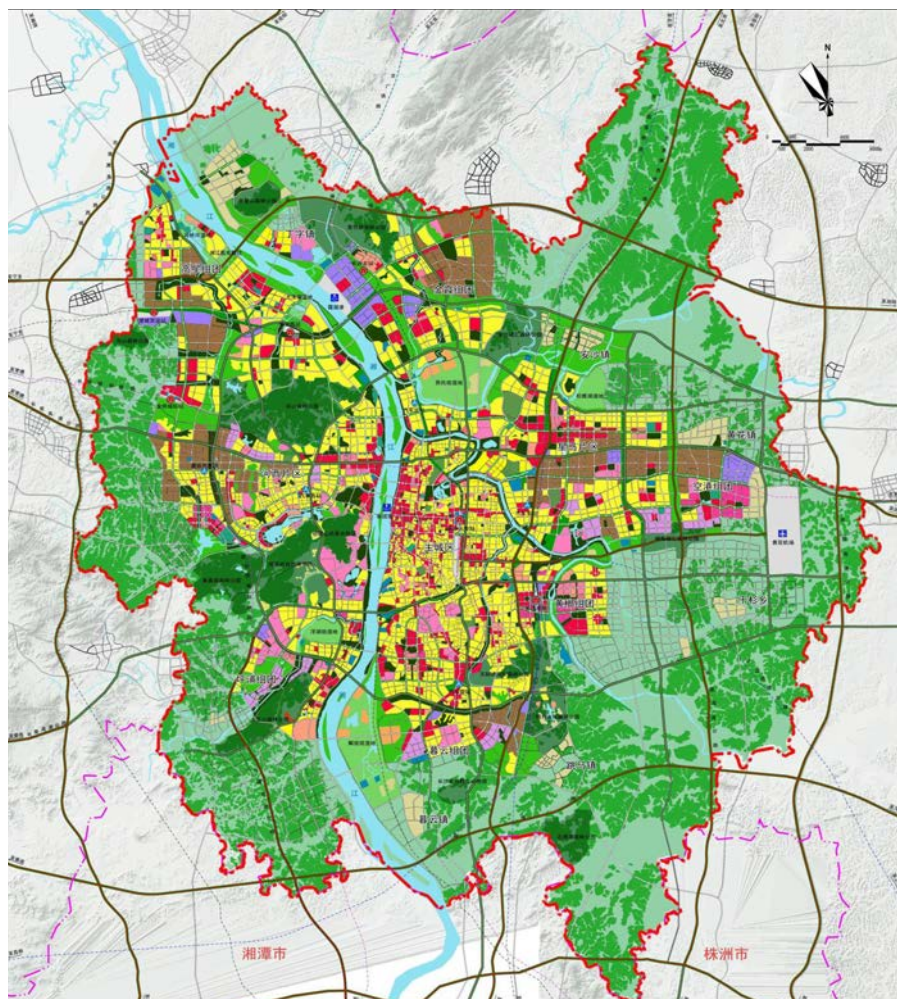


fig. 3.3 'Changsha Zoning Map'.

Source: <<http://www.csup.gov.cn/csup/publish/pubimages/>>

ment, and so on.(Ma, 2007)

The housing issue was not taken into account until the opening up revolution, starting in 1979. Hidden housing problems became the main focus of the urban construction of the city. In the 1990s, non-coastal cities like Changsha were ‘allowed’ to develop by the state, and the city explored every way that they could imitate the developed image of coastal cities. The functional transformation of the city pushed the suburbanization of urban sprawl, especially, housing suburbanization in the aforementioned three districts of Tianxin, Kaifu, and Yuhua.

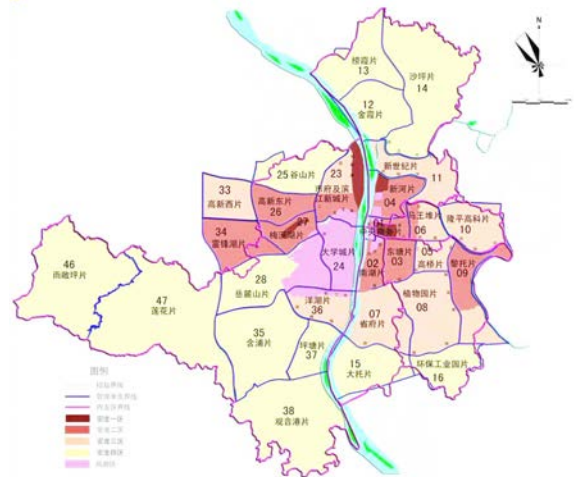


fig. 3.5 ‘Changsha Residential F.A.R. Map’.
Dark red represents highest F.A.R.
Source: <<http://www.csup.gov.cn/publish/CS2011ShowPublish.asp?xmnumber=1854&xmstation=%B3%A4%C9%B3>>

3.3 Gated High - rise living in Changsha

The collage shows images of new urban life in the gated communities. Low density villas flooded China, but their luxuriousness was considered a waste of resources, and the government soon banned them. High-rise residences provide a solution for investors to win the market. This architectural type, which reflects valuing quantity over quality, was appropriate to the Chinese government, market and customers.

Whenever design guidance is lost, land is eas-

ily zoned, colored yellow as residential, and sold off. Especially in the case of residential suburbanization, the amount and scale of suburban residential zones are questionable. According to the local construction administration, residential building area has grown, from 10,000,000 m² (2004), occupying 90.56% of construction building area annually, to 19,000,000 m² (2008), occupying 93.29%. Not only the amount of area is surprising, but also, the average residential Floor Area Ratio (F.A.R.) has increased dramatically,



fig. 3.4 ‘New Skyline of Xiang River’. Source: <http://www.gov.cn/jrzg/2013-07/30/content_2458369.htm>

from 2.91 (2004) to 3.71 (2008). Reading the dark red areas from the F.A.R. regulation map (fig. 3.5, 2010), including the case study area in the Southeast corner, the maximum residential buildings' F.A.R. is 3.0. The interesting part is that the top regulation value of 3.0 is lower than the average reported built value displayed on the government website (Residential Density Regulation, 2010). What's more, in two out of six F.A.R. examples, showing the appearance of residential communities of different F.A.R. values, the F.A.R. is over 3.0.

As Peng (2009) mentioned, the average F.A.R. in the city center of Changsha is planned to be 2.5, while the most commonly reported newly built residential projects surpass 5, and some reach 9. The Xiang River has been under pressure from all the river-side towers (fig. 3.4). The plan completely lost its control power, and guidance. Profit driven developers established their own planning system to challenge the horizontal skyline. Peng (2009) concluded that, urban planners wanted to see the land to be 'urbanized' as soon as possible, and the pursuit of profit always comes first for developers.

Vacancy rate

Despite of the large quantity of construction and trading of commercial housing, over 15 million m² between 2009 and 2013, the population growth rate in Changsha was lower than 100,000. These figures indicate that the real housing demand is much lower than the trading volume. Local newspapers investigated the vacancy rates of commercial housing in Changsha, using methods including: light counting during the night, air conditioner counting, electricity statistics, and interviews. The result they got was not optimistic: over 40% in the mega community 'Xiangjiang Shiji Cheng' (fig. 3.4). What reasons could explain the high vacancy rate of commercial housing in Changsha? Xiong, CEO of the real estate company, explained that two groups of citizens tend to leave the apartment empty, those who are preparing the apartment for the future in case the price rises; and those who intend to invest on the apartment and wait for the price to rise. 'The government sold out too much land, there is not any plan.' said Qian, the market director of the China Construction Company. Without proper urban planning, lands were sold out to investors, and basic infrastructures fell behind. Owners preferred to rent an apartment in the city instead of moving into the new apartment (China Times, 2013).

3.4 Residents' Urban Space in Changsha

Markets

The density of wet markets in Changsha decreases as one moves from the city center towards suburban areas. The population is expected to grow in the suburbs, where the gated high-rise residences are located. The network of wet markets in Changsha is not properly planned, and population density has not been taken into proper consideration. Temporary road markets are not rare in the city area (He, 2009). Similar comments were also given by Y. Yan & X. M. Chen (2012), stating that the high-speed urbanization of Changsha neglected to plan for markets.

The government announced the promotion for higher quality market, and printed "Management regulations of markets in Changsha" in 2010, but there are problems in implementing the regulation... Data from the government reflects the exist 185 food markets in Changsha, while the survey reveals only 147 markets in total... the peripheral is apparently inadequate in market supply.

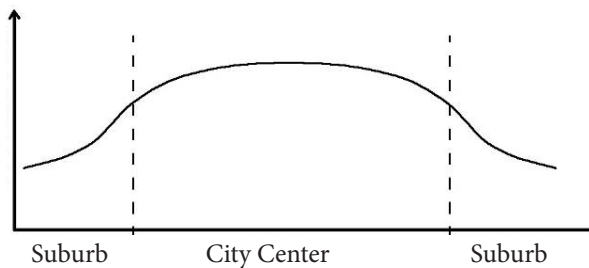


fig. 3.6 'Distribution of Wet Market in Changsha'.
Source: He R.B. (2009)

Greenery

The construction area is 135.84km^2 , the sum of green coverage is 48.92 km^2 , and the sum of green space area is 42.20 km^2 in Changsha. The distribution of greenery is obviously opposite to the urbanization direction, concentrated, in the Yuelu district on the western bank of the Xiang River. For the rest of the city, limited parks are kept, and urban sprawl in the suburbs does not easily coexist with greenery. The rapid developing district of Yuhua,

within which the case study has been done, results has the second lowest green coverage (29.39%) and green space area (24.22%) in the city. Regarding the categories as a whole, the sum of environmental greenery, including the residential areas, is twice the amount of public parks, which means, two thirds of the reported insufficient greenery is not easily accessible to ordinary people.

To improve the living quality of life of the citizens, the local government initiated several projects, including improving the water-side environment along the four remaining rivers in the city, inserting small scale local parks for the residents, and planting a green corridor along the main roads systems (Government of Changsha, 2014). But in reality, not only are the planned greeneries unplanted, but also existing nature has been demolished. One of the most criticized project Shanshuilincheng (see form No. 24), with 7 towers housing 298 families is even located inside the public botanical garden of the city, advertising the slogan: 'My home is in the botanical garden' (Sina news, 2011). As a result, only the privatized ones are kept and can be enjoyed by residents.

Residents in the case study area of 'Sports New Town' have been waiting for the planned (2002) 'Olympic Park' in the Yuhua district (Hunan News, 2011). But it did not take long for the site of the planned Olympic park to be sold out and developed into the Gated community Guozhongxincheng (No.20). According to Wang, a resident in his 50s who lives nearby, 'Last January, the southeast part of the hill has been demolished (fig. 3.7), replaced by several villas and towers, and trucks started to pour construction waste. There used to be over 200 Osmanthus trees growing, and the fragrance surrounded us when the season came, but nowadays, not even one tree is left.'

Aside from markets and greenery, primary schools and hospitals have fair quantity and quality. But the amount of public libraries and galleries is far below sufficient. It is extremely easy and depressing to distinguish the poor number of public libraries, in each district, with only 1 or 2. On the contrary, other numbers including GDP and income are indicated in billions.

	Furong	Tianxin	Yuelu	Kaifu	Yuhua
Area (Km ²)	42.8	73.64	125.41	187.01	114.21
Population(10000p)	523,730	475,663	801,861	567,373	543,200
Average Income (Yuan)	12,915	13,520	15,185	12,749	15,849
Sum of GDP (billion)	58.51	40.06	42.11	39.34	57.28
Population Growth(%)	4.46	4.39	4.58	4.84	4.81
Museum and Gallery	3	2	2	2	2
Public Library	2	2	1	2	2
Schools (Primary and Middle schools)	34	35	95	52	60
Pupils(Primary and Middle schools)	32,362	23,456	42,454	25,844	56,243
Health Institutions	299	314	411	305	421
Average Green space (m ²)	11.3	9.32	9.02	10.54	8.76
Wet Market	34	25	21	23	43

table 1. 'Statics of five districts in Changsha.'
Source: Yearbook of Changsha (2010)



fig. 3.7 'Dear Major, the Mountain is Disappearing.'
Source: <<http://people.rednet.cn/peopleshow.asp?id=855224>>

Chapter 4 Local analysis: case study

4.1 Case Study Area:

Sports New Town, Southeast Changsha

In the year 2000, the government designated part of Southeast Changsha as a new development area, where stadiums for the 2003 city sports meeting would be built. Before the fancy stadium was erected, this suburban area was filled with farmland, fields, and ponds for fish, and it has been tagged as 'lagging-behind'. In 2004, the government and developers cooperated to launch a real estate revolution in Changsha. Several powerful developers joined the revolution, which is branded as 'learning

from the successful commercial model of "Beijing Asian Games Village". During this first rush, properties No.6, No. 8, and No.20 were sold out. This also explains why they are the only non-tower communities in the study area, since after 2004 state law forbids low-density villa projects. Later, with the slogan 'to support the 2008 Beijing Olympic Games,' instead of implementing improvements for residents as promised, more land was sold to investors for housing projects (Local Government). However, residents witnessed how the planned sports



park was replaced by gated high-rise towers, and had been discussing the quality of life in this area for a long time (ouyabn, 2013). This study tries to give an objective analysis of the current situation. All of the pictures (fig. 4.1) are selected from the internet of real estate market. The bird's eye view of the high-rise communities with greenery represents the image of ideal city. Height and green coverage are two most essential figures that attract customers. Hardly any residents or life activity could be found from these images.



fig. 4.0 'Case Study area in Changsha', From Google map



fig. 4.1 'Case Study area', Pictures of the communities are collected from Internet. URL < <http://www.SouFang.com> > Map with numbers. Source: Author

Why did I choose my site?

In 2009, after three years getting their own private car, my parents moved from the city center of Changsha to a suburban area. The dramatic change in their daily lives, brought on simply by moving within the same city, brought me a lot of questions. When we lived in the city center, everything was within a walking distance: the fresh wet market was where my parents used to go, since both of them are gourmets who love cooking; the library and book market were my favorite places in the city, and it took me only 20 minutes to go on foot; after dinners, we always went out for a one hour stroll, but green spaces in the city center were encroached upon day by day, until that we finally could find no space for outdoor leisure that was easily accessible. At the same time, their private car was also a burden in the condensed city center, where a free parking lot is hard to find and traffic jams are exhausting.

It did not take them long to decide to retreat to the suburbs, and the new apartment is situated in a gated high-rise community Vaya Garden (No.3) (fig. 4.2), which brands itself as privileged with largest area of private greenery in the city (fig. 4.3 & 4.4). Interestingly, knowing that my parents were moving out of the city center, groups of their colleagues and neighbors also followed them, and got their second apartments in the suburbs for a better quality of life. Many of them even choose to live in the same community as my parents did.

After moving into the new apartment, the gourmets cooks found it hard to continue their hobby of cooking, since there were no longer any wet markets within walking distance, and the little supermarket nearby could hardly fulfill their needs. They had to drive their private car to get the fresh raw food they wanted, but parking was also problematic there. Half a year later, the emergence of a road market in the neighborhood was so warmly welcomed by the residents that even the government had to allow its existence during certain times of a day. For me, the library and book market became some issue, since there was no library in the neighborhood, and it seems that reading is not necessary anymore. If we had to go to the city center, there would be an argument about whether to use our car, or to take a taxi. At least, we got the huge private



fig 4.2 Birds eye view of Vaya Garden.

Source: Internet URL < <http://www.SouFang.com> >



fig 4.3 'Artificial Lake in Vaya Garden', taken inside Vaya Garden, with the residential towers of No. 7 community on the right side, and residential office mixed tower.

Source: H. J. Liu



Government Project

Community No. 6

Community No. 7

fig 4.6 'Panorama in Vaya Garden'. From left to right: government project, Golf Hotel, residential office mixed tower, Guitang River, Community No. 6, Community No. 7
Source: Author

garden; that gave us at least one hour a day of leisure without trouble. But sometimes, when we walk out of the gate and visit some other communities. We would get into other communities easily past the guard, whenever there were some temporary activities happening, although the fences make it difficult to get into or out of the community maze. All the monotonously duplicated towers do not help one to find his or her direction, and not only are all the elements on the ground confusing, but also, the sky is totally blocked without any hint as to one's location (fig 4.5 & fig. 4.6). Between the fences, the dead, left over street raises questions about urban design and planning.

Background information collection revealed that there were several designated high-density residential zones in the city periphery, where investors were allowed to build towers, and these special areas of gated high-rise concentration are permitted by the government to provide for the possibility of future growth. This also raises a lot of questions to be investigated. My qualitative research is done in one of these designated areas, where residents have seen the boom of high-density residential towers, where my family lived for four years. I uncovered a comparatively detailed and thorough reflection of real daily.



fig 4.4 'Sports New Town', taken by the swimming stadium on the west side of No.20.
Source: Author



fig 4.5 'Get lost', picture taken on top of the hill as the construction site of future metro station, shooting northward with No. 14 in the background
Source: Author

4.2 Gated communities in Changsha

As mentioned above, the Sport New Town is representative of the government-designated areas, where building high-density communities is allowed. Before the boom of residential towers, three main types of properties covered this peripheral area (fig 4.7 & 4.8). One was a governmental project, which functioned as the largest logistic spot for the city. All sorts of products, covering all aspects of needs, were stored and traded in these multi-story buildings. On top of the open shops are residential apartments of shop owners and drivers' families. At macro scale, the convenient suburban transportation system, railway station, and highways fuel the prosperity of the area. On a smaller scale, the volume of buildings and streets is quite pedestrian friendly, with the Height: Width ratio at almost 2:1. However, since none of them is gated, traffic flows get out of control easily, and since most of these shop owners are dealers and distributors who are dealing with big-ticket purchases, all the traders come to the market by cars or trucks. The unorganized logistic flow with all the traders coming in and out of the districts brings about lively chaos.

Shantytowns were also situated beside the multi-story districts. The owners of the self-constructed housing were originally local low income groups. Living conditions in the shantytowns are growing worse, so the original residents are moving out and renting these houses to 'outcomers', who are described as workers without registered continuous residence permits in the city. With this 'Hukou' system, residents from the countryside are categorized differently from residents of the city, and they are not given equal opportunities to get the same living standards or even equal education places for their children as the locals do (Zhang & Wang, 2010).

However, the 'outcomers' are easily satisfied, living conditions are not a problem, as long as there is two meter-square to sleep, water to drink and food to eat, they can continue living their urban life. Working conditions are not a problem either, all the heavy, dirty work that is despised by the educated locals, the outcomers undertake with gratitude. They urbanize the city with their own hands. They erect

the towers with their diligence. They guard the gated communities. At the same time, they are guarded against by the gated communities. Thousands of words of journalism and many documentary films tell stories of 'outcomers' and their humble lives in the big cities in China. If it is still too abstract, then their lives can be compared to immigrants in the developed countries, legal or illegal, they can always easily be found at the bottom level.

Industry and enterprises were not uncommon in this suburban typology, but for the government, they were as easy to move out and demolish, as shantytowns. After all the clearing work had been done, large areas of vacant land were sold to investors with commercial residential building permits. Investors, knowing exactly the hopes and fears of the middle class residents, fenced the plots and invested only on the landscape inside the fence, to give the image of an ideal urban life. Since the fence exaggerates polarization conflicts, with the heaven and hell difference between inside and outside the fence, they have to be guarded. Since the land was sold to be commercialized and privatized, all the problems should be settled within its own borders. But increasing burglaries were reported for every community. The fence and untrained guards were not ensuring the 'safety' of the residents.

The gated communities, marked on the map in green, usually cover over 40,000M² of land area, which means, over 200m*200m. The darkened outline of the green shape represents the fence, while the breaks represent gates that are accessible for residents living inside. It is not hard to discern from the map that over 80% of the gates open towards the main roads, or on the side roads that are between two gated communities. Seldom is any entrance facing governmental multi-story housing, not to mention shantytowns. This attitude of refusal and evasion is not only unhelpful in solving the conflict, but also, inconvenient for residents both inside and outside the communities, due to the detours they must take every day.

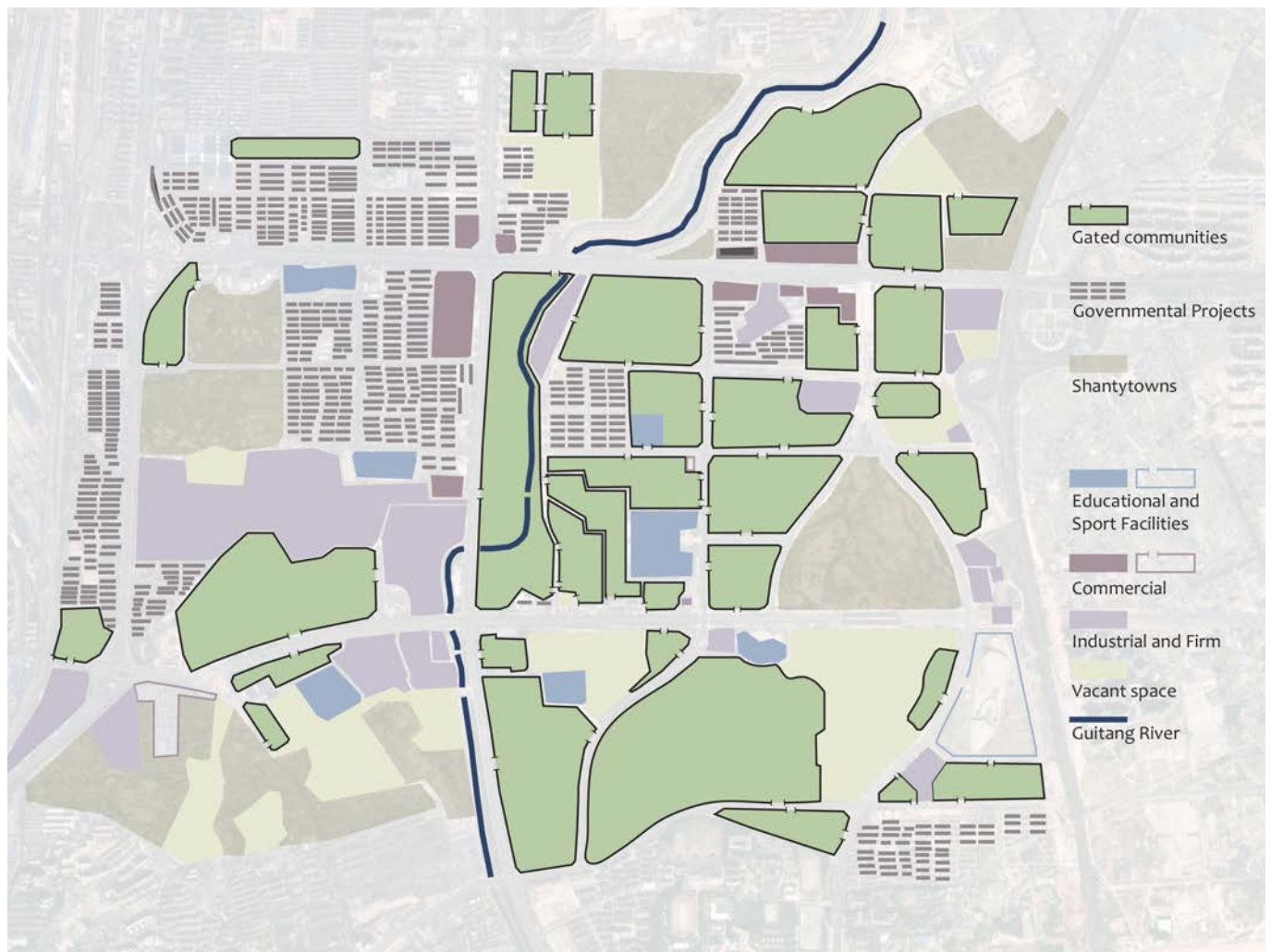


Fig 4.7 'Mapping Case Study Area', Based on Google satellite map. Map and legend were made according to the physical characteristics of the property. Gates and borders are clarified for Gated communities, and Governmental projects are kept open with their building volumes
Source: Author

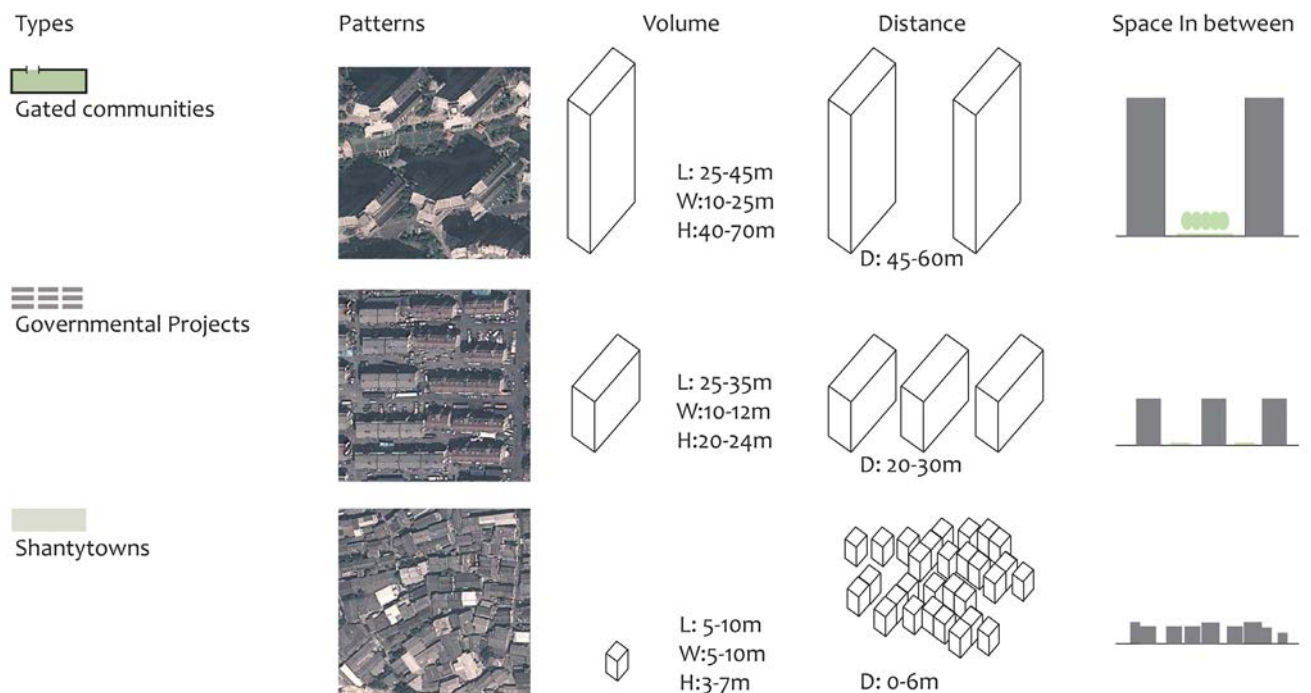


Fig 4.8 'Comparison of residential types of Case Study Area', Based on Google satellite map.
Source: Author

4.3 Borders for Gated Communities

To further explore the physical borders in this region, the author presently tries to explain the borders with analysis, using the astonishing cityscape available via Google satellite images. Between the gated communities, there can be two types of roads. When two communities are situated on pooping sides of a main road (fig 4.9 & 4.10), the main road, usually at least, four lanes carrying two-way traffic. This means $8 \times 3.5 = 28\text{m}$ for cars, as well as fast and noisy logistic trucks using the roads. There are no barriers to protect bicycle or motorcycle lanes. Even the pedestrian area is exposed to the fast suburban highway traffic, which makes it unpleasant for walking. When the paving is protected by greenery, venders' presence tells that citizens linger more on the protected street. The noise problem, brought about by heavy traffic flows.

As stated by Heng & Malone-Lee, (2009), different choices of building typologies correspond-

ing to similar densities can yield vastly different streetscape and fabric.

When the communities meet each other, if the distance in total is not more than 30m, the forces between two communities are so strong that the parallel space between their fences can create a real dead street, with fences on both side and cars parking in between (fig 4.11). Further, with tough high-rise towers in the proud extruding background. Residents avoid using this path, and commercial activities are repressed. It can also happen, when commercial spaces were in-between the communities and their entrances, that the street can be quite lively (fig 4.12 & fig 4.13).

When a gated community meets a governmental project, it can also be categorized into two types: with, or without a main road in between. That is to say, the distance, and the force between each other can be affected.



fig 4.9 'East Laodong Road', Vaya Garden (No.3) on the left background, and New city landmark (No.4) on the right. Source: H. Y. Ding



fig 4.11 'Meilin Road 1', White fence of Vaya Garden (No.3) on the left, Meilinjingyuan (No.6) on the right side. Source: H. L. Liu



fig 4.10 'East Laodong Road 2', NewcityNewworld (No.1) on the background. Source: H. Y. Ding



fig 4.12 'Meilin Road 2', White fence of Vaya Garden (No.3) on the left background, Meilinjingyuan (No.6) on the right side. Source: H. L. Liu

In the second category (fig. 4.15), a high-speed road acts as the border between the two forces. Parking and busy traffic were restricted to the left side, while greenery permeated into the street from the exclusive golf course on the right side. Citizens choose to use this side of the paving more than the opposite one. In the second figure (fig. 4.14), the designer tried to promote a lively streetscape by leaving space for commercial trades, but the force from the opposite side of the street is so strong, that no trader would like to rent space on this hopeless street. Finally, ‘outcomers’ have made their homes in this place where they can enjoy the city they build. As a result, occupation by the ‘outcomers’ makes the dead street alive in an unexpected way.

When shantytowns meet the other two forms of residential buildings, the gated communities seem to be threatened and would retreat from the chaotic force of shantytowns, judging from Google map, that problem is not as obvious as when it comes to un-gated communities, but the author has no grounds to give further judgments.

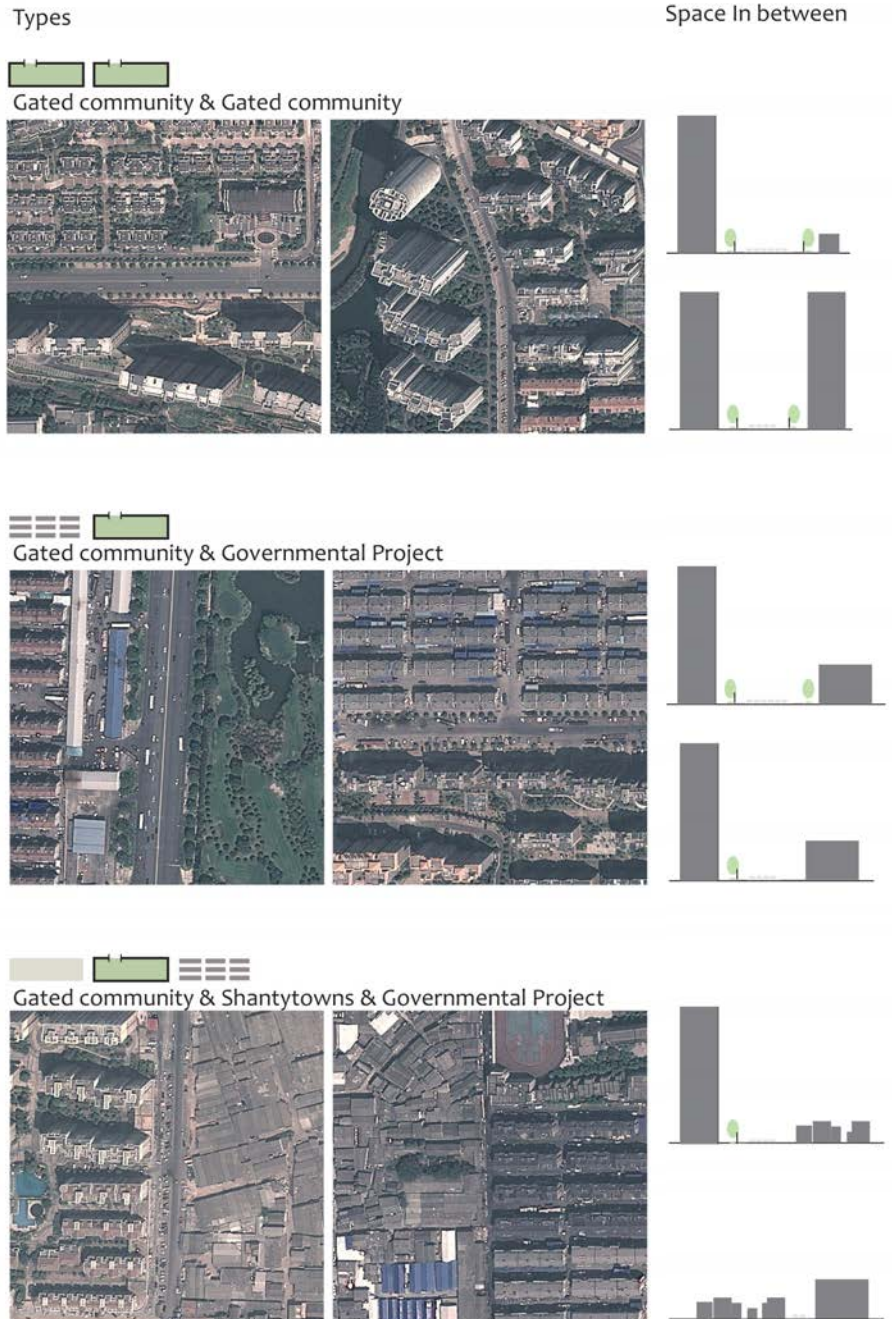


fig 4.15 'Mapping the borders'
Source: Author



fig 4.13 'Xinyu Road 1', Yuhuangongguan (No.15) on the left background, Sanjiang huazhongcheng (No.10) on the right side, opposite to primary school in No.8. Source: H. L. Liu



fig 4.14 'Xinyu Road 2', Yuhuangongguan (No.15) on the left background, Sanjiang huazhongcheng (No.10) on the right side, opposite to governmental project. Source: H. L. Liu

4.4 Gated Communities in Numbers

In the chosen area, 20 gated communities (17 brands or investors in total) have been studied. In the first form (table 2), data on land areas reveal the precise land occupation of the communities divided, into S, M, L, XL scales. Only one residential tower compound, No.4, is found in this area, with the smallest scale of land area of 4330 M². Accordingly, its floor area ratio tops the list. The land area of 'M' scale ranges from 10,000-40,000 M², including developments No. 1, 3, 10, 12, 14, and the amounts of buildings are often under 10, with less than 1000 families. For 'L' scale, the land area grows from 40,000-120,000 M², high-rise towers from 10-30, with 1000-2000 families; finally, the 'XL' communities occupy land area over 120,000 M², with over 30 residential buildings that can house over 2000 families.

The F.A.R., as discussed above, is the number that restricts the form of buildings. The green coverage degree is what forces the form to be high-rise, since all the regulations require that the green coverage of the community should not be lower than 30%. At the same time, the greenery is most crucial for the residents to settle, since that is what they are looking for, when escaping from the city center. Residents from two communities (No.3 and No. 13), where green cover is usually high at 60%, would be less tempted to go out of their community, whereas, residents from other communities tend to go into these two communities to enjoy the more exclusive green space.

For community No.3, since the investors actually occupy the long piece of land initially planned for the exclusive golf hotel, the park is a by-product that adds value due to its exclusiveness. The gated

park on top of the hill is filled with trees of all species, decorated with traditional Chinese garden elements (fig. 4.16), and even has pretty exotic peacocks that were raised inside to enforce the branding image (fig. 4.17). For No.13, the artificial lake surrounded by the towers is the center of the community (fig. 4.18 & fig. 4.19); the dense greenery inside the gate embraces the kindergarten. Both of these communities have half of their dark ground floor levels filled with an outdoor gym and furniture.

From the perspective of community No. 3, their way of managing the situation is a curfew that all visitors, including residents, must adhere to. A guard expels violators out of the park after 20:00 to keep the area safe. This has caused small conflicts between the investors and the residents inside, since the residents declare to have the right to use the park all day long because they pay for the maintenance and investments.

Towers enclose hundreds and thousands of apartments, but it has always been under discussion about how many of them have actually been occupied. Initiated by a taxi driver in Beijing, it has become a popular activity all over China to take pictures of the high-rise towers at night and share them on the internet, to see how many of the build residential towers are vacant by counting the average numbers of illuminated dwellings. Here is an example from a blog (Youke, 2014) for the community No.2, with 2262 units provided. Two illuminated towers are being sold, the other towers were completed and occupied during first phase. Officially, the investors announce that the occupancy is over 60%.

For most of the high-rise developments (not including villas No.8 and No.17) in the region, the



fig. 4.16 'Traditional Chinese Style Garden with painted wall'
Source: Internet URL < <http://www.SouFang.com> >



fig. 4.17 'Peacock in Vaya Garden', taken on the bridge over Guitang River, leads from the residential area to the golf Hotel. Source: H. J. Liu

Name of Project	Land Area (1000 M ²)	Building Area (1000 M ²)	Building Density	Floor Area Ratio	Green Coverage	Amount of Buildings
1.Zundihuating (尊邸华庭)	20,262	102	0,163	4,5	0,3989	5
2.NewcityNewworld (新城新世界)	453,4	1200	0,297	3	0,406	35
3.VayaGarden(华雅生态园)	39,266	128,03	0,136	2,4	0,618	6
4.Hualing.New city landmark (华菱·新城地标)	4,33	42,9	0,33	6,1	0,361	1
5.Zhongcheng.lijingxiangshan (中城·丽景香山)	153,062	395,166	0,24	2,2	0,4	42
6.Meilinjingyuan (美林景园)	68	160	no data available	2,34	0,42	23
7.Jiashenghuating (嘉盛华庭)	44,711	258,756	0,231	2,93	0,419	17
8.Green city. Guihua City (绿城·桂花城)	155,21	310	no data available	1,75	0,4	54
9.Maohua. Xiduhui(茂华·禧都会)	62	156	no data available	no data available	no data available	49
10. Sanjiang huazhongcheng (三江·花中城)	75.943	170	26%	2.2	40%	28
11.Yueguangshanzhuang (月光山庄)	22,2	85,175	0,1899	3,52	0,542	7
12..Jingwu.Langqinshan(Unbuild) (京武·浪琴山)	149,842	316	no data available	no data available	no data available	80
13.Hehuijiayuan(和卉家园)	22,364	75,166	0,207	3	0,401	5
14.Zhonglongguoji.yuxi (中隆国际·御玺)	117,599	415,961	0,164	2,78	0,61	12
15.Yuhuagongguan (雨花公馆)	39,845	184,785	no data available	4	0,405	8
16.Rongke. Tanxianghuayuan (融科·檀香花园 (香山国际))	140	300	no data available	2,5	0,4	47
17.Xingchengyinxian (星城映象)	62,193	185,999	0,1977	2,97	0,401	13
18.Guozhongxincheng (国中星城)	223,311	104,156	0,35	0,69	0,41	102

table. 2 'Gated Communities and their numbers 1'.

Source: collected by author from the internet

URL < <http://www.SouFang.com> >



fig. 4.18 'Artificial lake in Zhonglongyuxi'.

Source: H. J. Liu



fig. 4.19 'Paving in Zhonglongyuxi'.

Source: H. J. Liu



fig. 4.20 'Fence in Zhonglongyuxi'.

Source: Internet. URL < <http://www.SouFang.com> >

amount of parking lot falls behind the number of apartments. At the same time, parking in lots inside the gates is charged, while parking on the unregulated public roads outside is free. It is not surprising that parking is not regulated in the suburbs. The result is that spaces between the gated communities became the best free parking lot. This also explains why owners complain about the privatization of public roads.

There is not enough variety in the building types, to allow indoor living conditions to meet the residential design regulation (GB50096-2011), which requires that residents to get enough sunshine and natural ventilation, and so on. Towers and slabs are reflected on the plan as dots and lines, slabs are the most used since they have excellent properties for receiving sunlight and direct natural ventilation, as demonstrated in the picture. All the slabs are positioned such that the southern facades are bathed in sunshine, while at the same time, the continuous slabs completely block the views of other citizens, and there is no space for the viewers to take a breath.

Towers are not as popular as slabs because the indoor environments are not as pleasant. Infrastructure implementation is mentioned in the regulation (GB50180-93), according to the scales and populations of the communities, but the quantitative regulation does not help to solve the problems of daily life. Outdoor gyms are generally implemented in all the communities, on the ground floor under the towers (fig. 4.21), but residents discuss the limited quantity and insufficient sports field, citizens are forced to go to indoor gyms and join membership sport clubs. Small supermarkets and kiosks can be found near the entrances of the communities, but the scale and function are questionable. The supermarkets inside communities are not the residents' first choice for grocery shopping. The insufficient supply system pushes the emergence of the temporary market, which is highly appreciated by the residents. Without enough daycares, residents either drive their kids far away, or send their kids to day care in other communities nearby. The parents warmly welcomed the daycare in community No.7.



fig. 4.21 'Small super-market in Vaya Gerden'
Source: H. J. Liu



fig. 4.22 'Outdoor playing castle in Zhonglongyuxi.'
Source: H. J. Liu



fig. 4.23 'Outdoor gym on ground floor in Vaya Garden.'
Source: H. J. Liu



fig. 4.24 'Outdoor gym on ground floor in Zhonglongyuxi.'
Source: H. J. Liu

Name of Project	Amount of Apartments	Amount of Parking	Property management fee (yuan/M ² /mon)	Type of Building	Outdoor Facilities	Supermarket	Daycare
1.Zundihuating (尊邸华庭)	1061	no data available	1,55	slab	Y	N	N
2.NewcityNewworld (新城新世界)	2262	2400	1,5	slab	Y	N	2
3.VayaGarden(华雅生态园)	621	no data available	1,6	mix	Y	1	N
4.Hualing.New city landmark (华菱·新城地标)	364	no data available	no data available	Tower	Y	N	N
5.Zhongcheng.lijingxiangshan (中城·丽景香山)	2692	1860	1,7	mix	Y	>1	1
6.Meilinjingyuan (美林景园)	1000	no data available	no data available	mix	Y	Y	N
7.Jiashenghuating (嘉盛华庭)	1233	663	no data available	Slab	Y	N	1
8.Green city. Guihua City (绿城·桂花城)	1500	1431	no data available	villa mix	Y	N	Y
9.Maohua. Xiduhui (茂华·禧都会)	991	598+66	no data available	slab	Y	N	N
10. Sanjiang huazhongcheng (三江·花中城)	1200	1000	1.5	mix	Y	>1	1
11.Yueguangshanzhuang (月光山庄)	226	no data available	no data available	mix	N	N	N
12.Jingwu.Langqinshan(Unbuild) (京武·浪琴山)	no data available	no data available	no data available	mix	no data available	no data available	no data available
13.Hehuijiayuan(和卉家园)	402	no data available	no data available	mix	N	N	N
14.Zhonglongguoji.yuxi (中隆国际·御玺)	1344	2000	1,5	Slab	Y	N	1
15.Yuhuaongguan (雨花公馆)	785	959+106	no data available	Tower			
16.Rongke. Tanxianghuayuan (融科·檀香花园 (香山国际))	1957	no data available	no data available	mix	Y	N	1
17.Xingchengyinxiang (星城映象)	1775	614+283	1,7	mix	Y	N	Y
18.Guozhongxincheng (国中星城)	359	552	2,8	villa mix	Y	N	N

table 3. 'Gated Communities and their numbers 2'.

Source: collected by author from the internet

URL < <http://www.SouFang.com> >

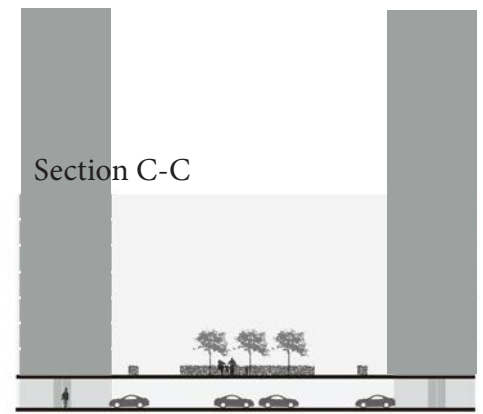
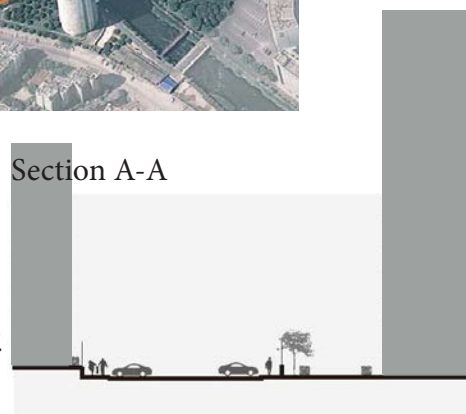


fig. 4.25 'Sections of Vaya Garden'.
Source: Author

4.5 Interfaces in the Communities

There are three types of interfaces between the gated communities and the city:

Type1:

In the first type, the parking lot is underground, covered by greenery, so that the towers are the only elements that residents see from both inside and outside of the community. Visually, permeable fences define the borders of the community. Defining physical border is problematic, especially when the shape of the property is not a regular square. Take No.3 for example; since it extends along the river, for over 200 meters, residents on both sides of the community complain about the tedious fences that they encounter every day. A lot of parents who have their children studying in the Primary school in No. 9 district are complaining about how inconvenient it is for them to send their kids to school every day. They must detour a long distance due to the gated Golf hotel garden of No.3. Several parents collected all the suggestions and delivered them to the local government. The government's spokesman said that they had already tried their best to negotiate with the investor of community No.3 did not end well, since the investor asked for too high of a price to make changes. Also, on the opposite side of the community, the industrial factory is not easy to move, either. The Golf hotel states that it will be inconvenient for running if they allow too many entrances and streets to cut through their property (PPLL3498, 2012).

The same problem can also be observed at community No.7, which was established in the valley between development No.6 and the high school; the two gates are located in such a way that the traffic flows are directly connected to the roads. However, for the block within which it is located, the fences of No.7 cut through the square diagonally. The only middle scale supermarket is located in the northeast corner of this block, with the diagonal barrier of community No.7, every resident of No.3 and No.6 will have to walk at least 400 meters more on average if they want to do grocery shopping on foot.

Type 2:

The ground floor spaces along the street (light brown color) are left for potential commercial activities, as illustrated on the map of communities, No.2 (fig. 4.28), No.9, and No.19. These communities provide commercial space for street life, when the interfaces are not facing fences or the borders of other communities. When residents get into the communities with their cars, they experience, a dra-

matic change of surroundings: from noisy road, to commercial streets at the border of the community, and finally the beatified paradise between the towers. The streets inside the communities are parked with cars, since it is much cheaper to park in this way. The blocked streets are not welcoming, even for residents inside the community, Zisuacheng, one resident from community No.2 wrote in the forum and posted an associated picture taken inside (fig. 4.27),

'The rain in the winter is so cold... Living in the city, everyone has their own apartment, and no one knows anyone, even for neighbors who live on the same floor, not to mention those residents who do not live on the same floor with me. I seldom have any visitors from my neighborhood... Hopefully, more public activities will be organized and we can know each of our neighbors, just like what I had in my hometown, in the countryside, so that the atmosphere would be nicer and the winter can be warmer...There isn't any passerby, even when it is not raining, the sky is filled with houses and the street is filled with cars, in fact there are a lot of residents living here, but why is it so quiet?'

Several forum users reply that 'This is what big cities and high-rise buildings are like, you have to be accustomed to it', some defend that it is quite lively when the weather is good. One neighbor suggests that the author will get to know more neighbors after having a baby.

Meanwhile, the linear commercial street (fig. 4.29) can only support small-scale merchandise, like a teahouse, fruit store, and barbershop, but residents are still calling for bigger markets that can satisfy their needs for fresh foods.

Type3:

In a Type 3 community, the interface has the same structure as in the second type, but the third type differs such that the pedestrian system is elevated and separated from the car flows. The residents enjoy more and better accessibility and a better pedestrian environment. Secondly, the elevated space allows for more parking spaces, as well as more space for commercial activities.

As in No.10, home of the biggest supermarket in the region, part of the landscape is completely pedestrian, and the supermarket has also become

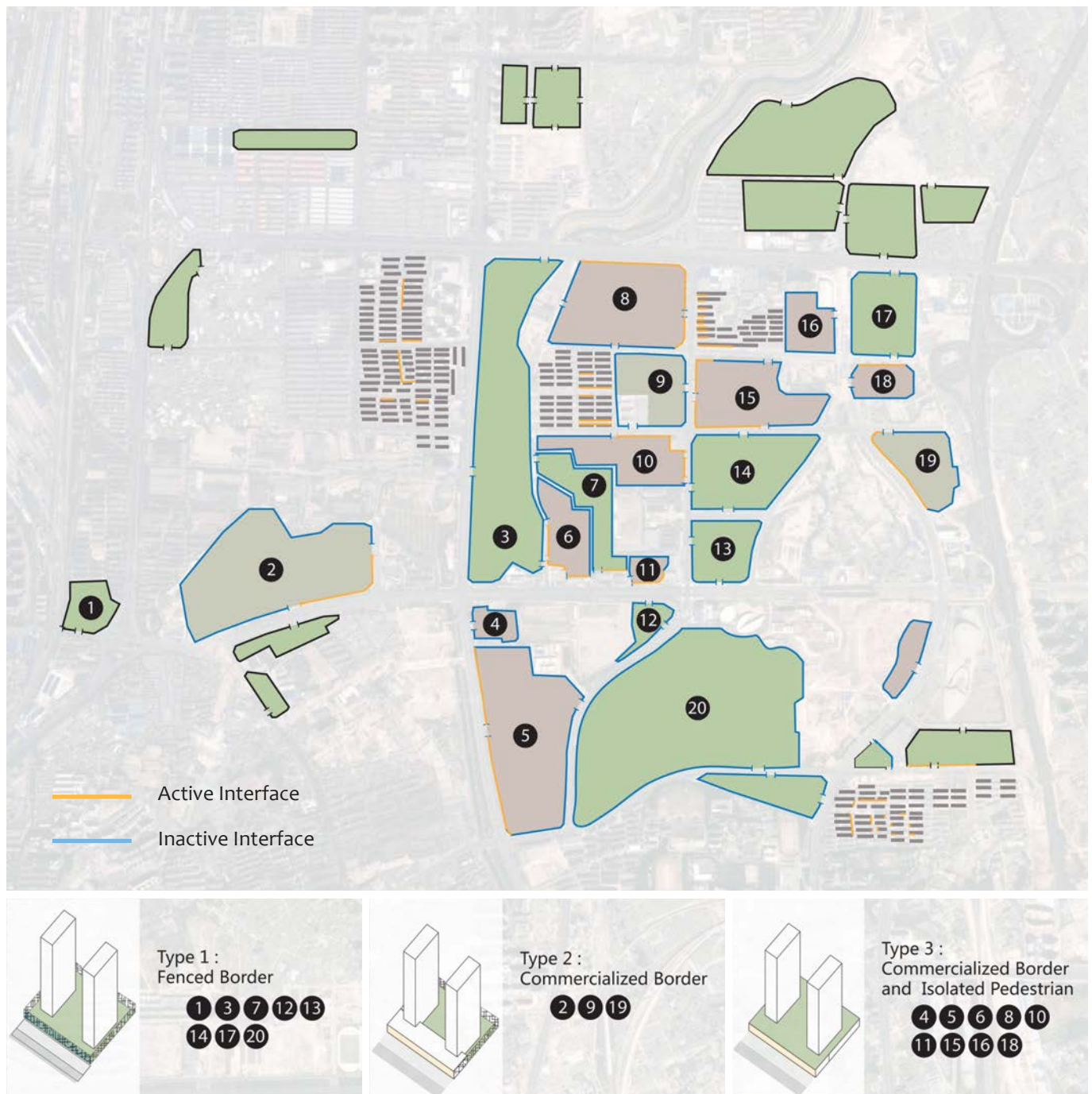


fig. 4.26 'Interfaces in Gated Communities'.
Source: Author



fig. 4.27 'The winter comes, the community has become so quite'.
Source: Zisuacheng (2013)



fig. 4.28 'Interface of community No. 2'.
Source: Internet URL < <http://www.SouFang.com> >



fig. 4.29 'Interface of community No. 2'.
Source: H. J. Liu

the starting point of the night market in this district. Lots of vendors gather by the entrance square. Interestingly, the commercial space on the north street, especially the parts facing the governmental projects are left vacant, some of them have even become temporary apartments for outcomers, and all the rest are hard to sell (Dai). The unnecessarily luxurious scale of the columns expresses the ambition of the investors, but they were left to decay without being used (fig. 4.14). This is a strong contrast to the active areas. In the end, the residents of No. 3, No.6 and No.7 have two choices when deciding a path to the supermarket. Along the square border of the district, they would prefer to walk along the Southern path and Northward later on, instead of Northward first to take the northern street, and this can also be seen from the locations of the temporary markets, that seeks areas with the most foot traffic. The fact is, even in the unplanned suburbs, there is a certain kind of context that can be learned to guide investment and design. The design vision for the streetscape, usually lively with happy people, does not necessarily ensure the coming reality would be as happy. This is apparent from a comparison of the rendering picture (fig. 4.30) and the current scene on the entrance street of Lijingxiangshan No.5 (fig.



fig. 4.30



fig. 4.31

fig. 4.30 'Rendering of Entrance of community No. 5' .

fig. 4.31 'Entrnace of community No. 5'.

Source: Internet

URL< <http://xinfang.0731.cn/houseInfo.asp?/=16184>>

4.6 Residents' Daily Lives in Changsha

After the state-scale political disaster ended in the 1970s, citizens started to learn to enjoy urban life. Leisure activities and markets became available all over the city. During certain time of a day, public spaces can be occupied freely for leisure activities. For example, along the Xiang River, citizens get together in the early morning to do Taiji exercise, or even leisure swimming (fig. 4.32 & fig. 4.33). Former food storage and distribution center has been transformed into wet markets, and all the mushrooming temporary markets symbolized a new form of urban life (fig. 4.34).

It was the state-biased development strategy that postponed the expansion of Changsha, but since the permission to grow was given, the speed has been incredible. All varieties of temporary urbanism have also been encouraged during this period. Firstly, diverse array of temporary markets can be found all over the city, day and night, books and food (fig. 4.35, fig. 4.36 & fig. 4.37); the lively scene of sunbathing (fig. fig. 4.40) and square dancing (fig. 4.42) can activate the vacant space in a minute, and the city of Changsha has the most lively square dancing culture in China. At least 800 residents come to dance every evening on the square in front of He Long stadium. Players of Chinese traditional leisure game of 'Majiang' playing (similar to poker but with solid cubes) can also be found occupying public space, and inviting the public to join in and comment (fig. 4.41). The most special free activity for the citizens is sprung by a well, called by the same name as the city, Changsha, which is situated at the site of the old town (fig. 4.38). Water coming from the Changsha well is so sweet and tasty that citizens come over 10 kilometers away to fetch well water, even though tap water is cheap and convenient.

fig. 4.35 'Xiahe Street Night Mraket'.

fig. 4.36 'Temporary Book Mraket'.

fig. 4.37 'Temporary Road Mraket'.

fig. 4.38 'Clear Water from Changsha Well'.

fig. 4.39 'Wet market and shop spillover'.

fig. 4.40 'Sunbathing in the city center'.

fig. 4.41 'Outdoor Majiang playing'.

fig. 4.42 'Sqaure dancing competition'.

Source: 'Changsha in 2006 URL.< <http://www.999kg.com>>

authorized by photographer Yang Fei



fig. 4.32 'Public Taiji along the Xiang River'. fig. 4.33 'Swimming in the Xiang River'. fig. 4.34 'Wet market in Changsha.'

Source: 'Old pictures, old Changsha, Changsha in the 1970s'. URL < <http://www.douban.com/group/topic/45981828/>>



fig. 4.35

fig. 4.36

fig. 4.37

fig. 4.38



fig. 4.39

fig. 4.40



fig. 4.41

fig. 4.42



fig. 4.43 'Axonometric zoom-in, 05:30' .

Source: Author

4.7 Residents' daily lives in Gated Communities

The time mapping of space usage and inside the gated communities, is inspired by research on sidewalks done by (Kim, 2012). The author mapped out how the pavement was occupied, during different times of a day by various users. Axonometric drawing is an enlarged view of the selected region, showing where two gated communities (the upper part of No.3, the lower part of No.6, and the left corner of No. 7) meet each other on a street connected to the main urban structure (fig. 4.47).

Early in the morning, starting from 5:30 (see gif. 4.43), the first vendors appear at the corner where the street meets the road, opposite from a row of shops. The street is divided into several portions, except for the space in front of the entrances of the communities, and low row of stores beside the entrance of No.3, there is only one lane left for car traffic. Parking crowds all of the rest of the space, because, as mentioned above, parking in this area is free. Some early risers get up to do their regular morning exercises, mainly inside their gated communities.



fig. 4.44 'Early morning inside the community No. 3' .

Source: H. J. Liu



fig. 4.45 'Early morning outside the community No. 3' .

Source: H. J. Liu



fig. 4.46 'Axonometric zoom-in, 06:30' .

Source: Author

One hour later, the temporary market starts to grow on the pavement, and residents come out to the main road, as indicated by the black areas marked on the drawing. The row stores spill over onto the paving with temporary structures (see fig. 4.46). Residents' flows are restricted to certain gates (fig. 4.48); since not all the gates are open, in order to save money on hiring guards, even though the gates have to be designed for fire regulations. At the open gates, vendors target their customers, and the temporary markets grow (fig. 4.49).



fig. 4.47 'Location of Zoom-in' .

Source: Author



fig. 4.48 'Morning inside the community No. 3' .

Source: H. J. Liu



fig. 4.49 'Morning outside the community No. 3' .

Source: H. J. Liu

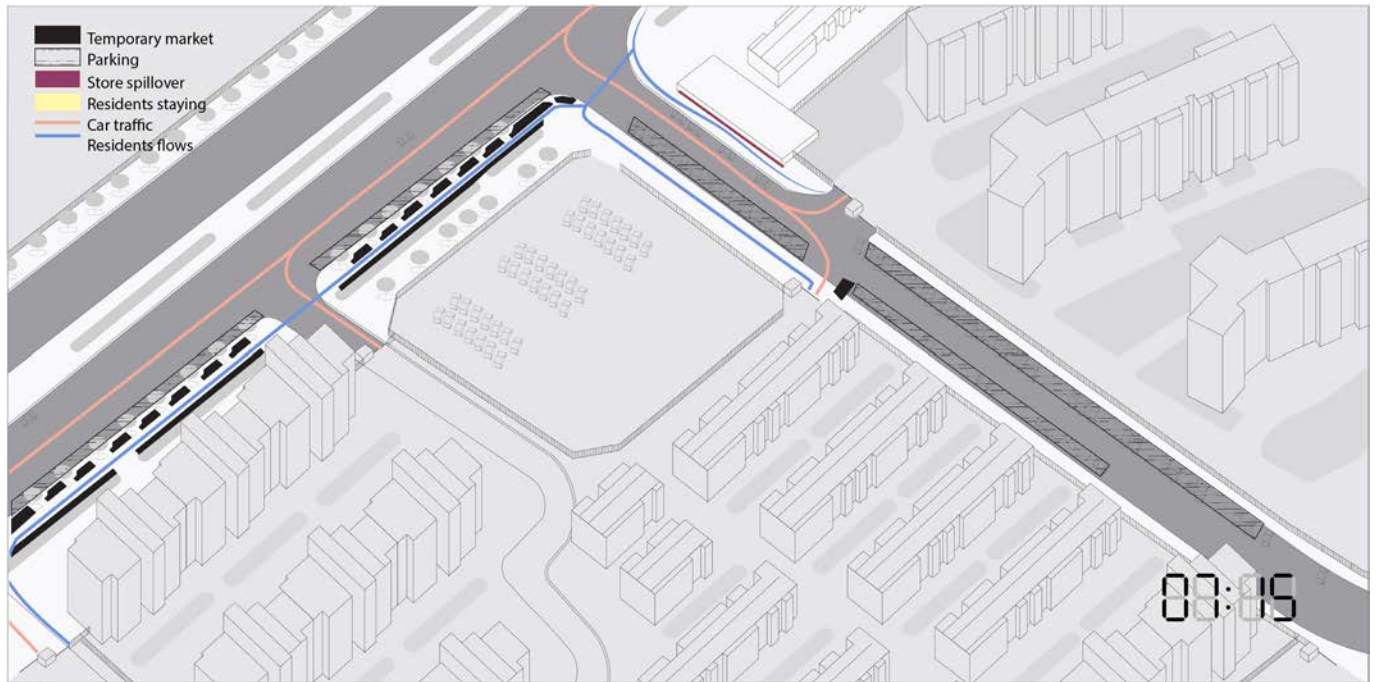


fig. 4.50 'Axonometric zoom-in, 07:15' .

Source: Author

By quarter past seven, the temporary markets have grown into each other (fig. 4.50). Not only is all the paving occupied, but also, this side of the road is lined with the vendors' vehicles (fig. 4.54 & fig. 4.55). Vegetable and fruit sellers lay their goods along the paving. Fish and meat dealers sit or stand by their vehicles for convenient access to their equipment (fig. 4.51). Customers will also see, as can be seen in the wet market, how dealers skillfully kill chickens and fishes on site. Most of the dealers come from nearby villages with their own grown vegetables, within half an hour driving distance. At the same time, residents come out of their

communities driving on the main road to work, and all this liveliness constitutes the rush hour of the day. These temporary markets appear almost every day, even when it is raining, as there is still a need.

After eight o'clock, the temporary markets disappear in a second, as this is when the governmental organizers' start working (fig. 4.53). The cleaners come to sweep the left overs from the temporary market; it is surprising that they do this for the market, since nobody pays them for the extra work. But later research has revealed that this temporary market is listed on the official website, with permission



fig. 4.51 'Road temporary market 1' . With community No. 11 in the background

Source: H. J. Liu



fig. 4.52 'Road temporary market 2' . With community No. 11 in the background

Source: H. J. Liu

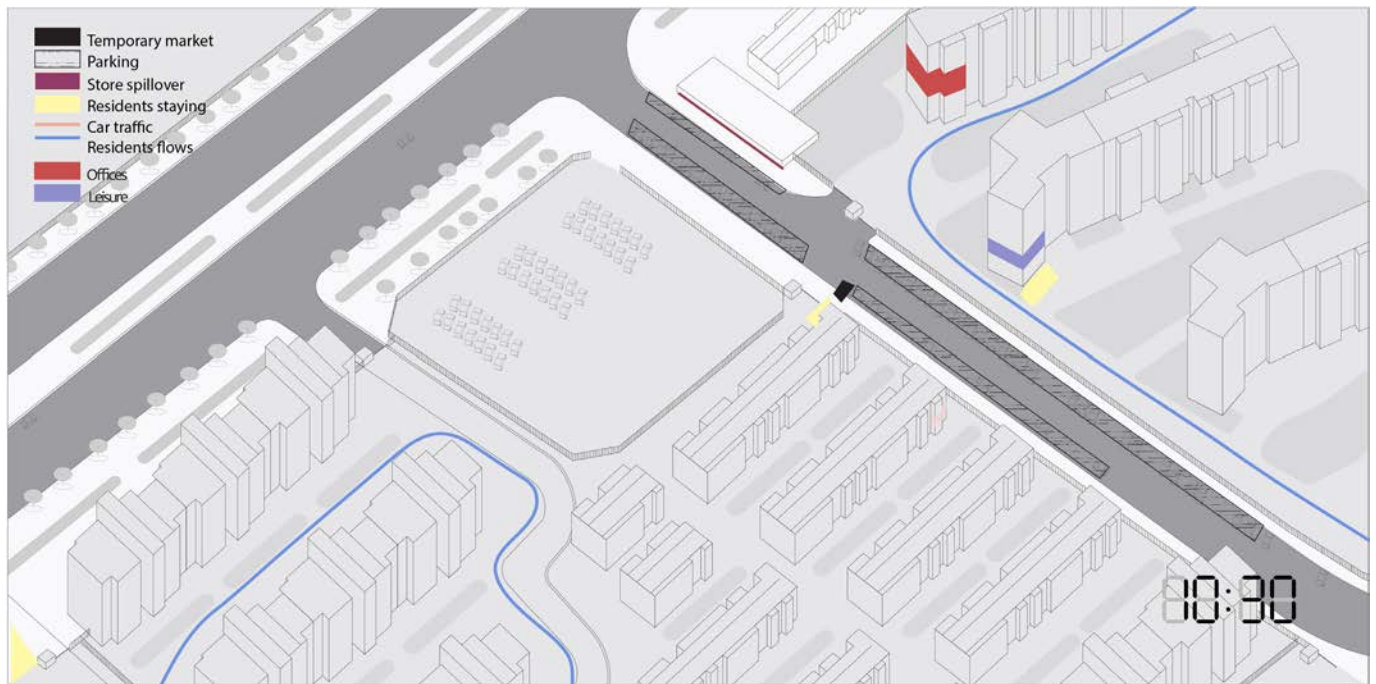


fig. 4.53 'Axonometric zoom-in, 10:30' .

Source: Author

during certain times of the day. Almost all of the vendors have finished their day, only a small group of them retreat into the streets between gated communities, or stay by the entrances (fig. 4.59). This is also when the functions inside the community start to become active. Some of the apartments transformed into offices and some into leisure salons, or even Majiang houses. Senior residents get out of their apartment and gather at several specific spots near the entrances, where they can gather to dance, watch people and chat (fig. 4.56). The space usage fluctuates a bit during the day, with a lunch- time and afternoon break.



fig. 4.54 'Road temporary market 4' .No.12 in the background. Vehicles for Toufu

Source: H. J. Liu



fig. 4.55 'Road temporary market 5' . No. 11 (left) No.12 (right). Vehicles parked along the road

Source: H. J. Liu



fig. 4.56 'Square dancing' . With community No. 7 in the background.

Source: H. J. Liu



fig. 4.57 'Axonometric zoom-in, 18:30' .

Source: Author

After dinner, around 18:30, another peak of residential activities arrives (fig. 4.57). Residents get out of their apartments and stroll after dinner. Most of the residents do this inside their gated community, but some special gardens, like the one in community No.3 (fig. 4.58), , attract a lot of residents who go into the community and enjoy the nicer natural environment there. The temporary market site is occupied by another group of dealers, who sell garments and accessories. Most of the dealers and customers are residents of the gated communities. They are defined as the evening markets. Cars parked in front of

the row of stores will also leave some spaces, since their owners' work days inside the communities are over. Unlike the working function, the leisure function continues, or even peaks during this time of a day, when residents are relaxed and have time to spend. It is also a good chance for them to go to the massage spa, or Majiang houses, inside the communities. Usually these kinds of commercial functions are not against residents' will, since they are neither as smelly as restaurant, nor as noisy as bars and clubs.

After the evening leisure peak is over, the



fig. 4.58 'Evening Strolling' . Inside community No. 3

Source: H. J. Liu



fig. 4.59 'Last temporary market of the day' . At the entrance of community No. 6.

Source: H. J. Liu

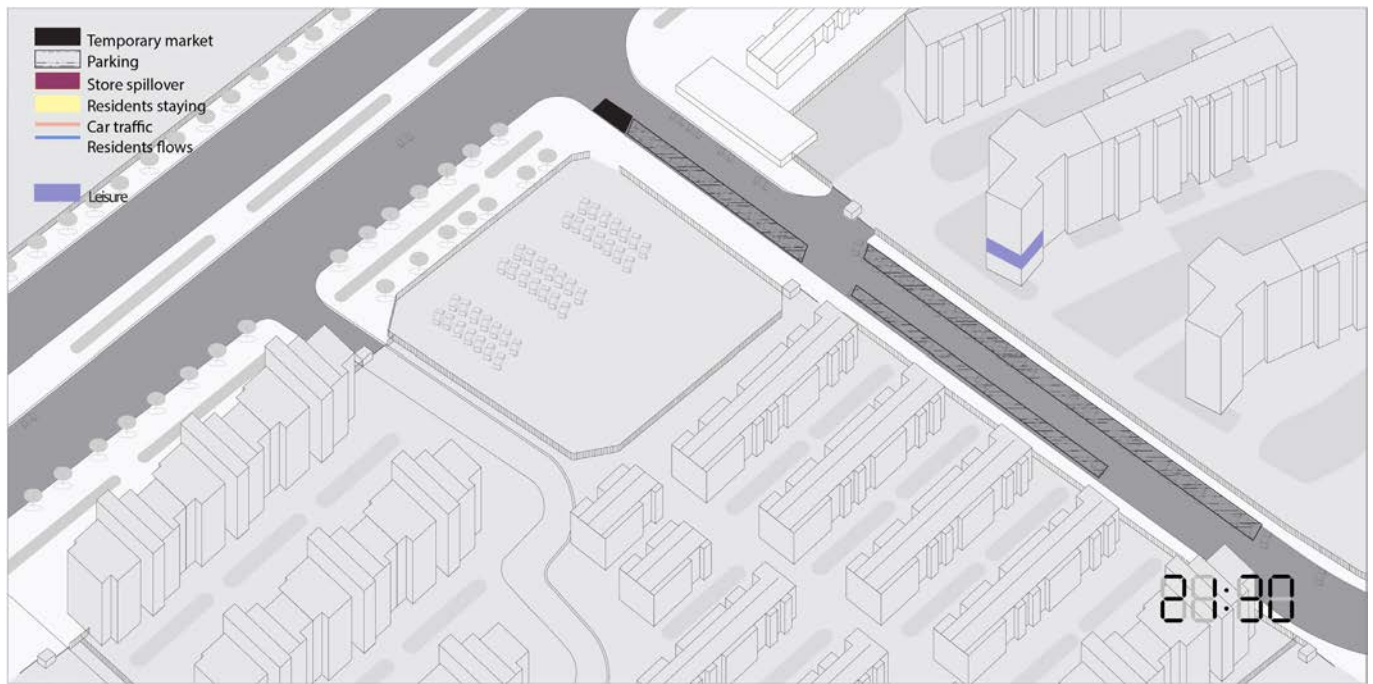


fig. 4.60 'Axonometric zoom-in, 10:30' .

Source: Author

residents go back to their apartments, and spillovers from stores retreat back to their shelters (fig. 4.62). Only the ready-made food vendors and cars are still performing on the street. The target consumer's lives in the governmental residential housing, since this sort of commercial form is commonly located on the street system (see fig. 4.61 & fig. 4.63).



fig. 4.61 'Night market 1'. In front of the supermarket under community No. 10

Source: H. J. Liu



fig. 4.62 'Early night market'. Shop spillover the paving

Source: H. J. Liu



fig. 4.63 'Night market 2'. In front of the supermarket under community No. 10

Source: H. J. Liu

4.8 Questionnaires

Most of the questionnaires were distributed through the Internet and only a few were collected physically. Respondents were collected from 56 residents living in the gated high-rise communities in Changsha. One third (20) of the respondents were from No.3 Vaya Garden; the second largest group was from No. 7 Jiashenghuating (11), a few were from community No.5(5), and two were from community No. 13. Four respondents were from other commercial communities that are not included in the study area. Four residents of a work unit collective housing were also included in the answers.

The providing of nice environment is behind the decision of living in a gated community by (46.43%) from the respondents. The reasonable price is the second largest reason. Equal numbers state that transportation and apartment design are the next most important considerations. It was quite interesting to find out that not a single resident choose the leisure and entertainment facilities, and seldom did any residents choose safety as one of the reasons, which, in return, reflects that, leisure, entertainment and safety are not main influences on the residents' decisions. Two respondents give other answers: this community is closer to a nice school. This raises another unequal planning issue in China. Schools are zoned and only available to those who have a 'Hukou', which is the official residence permit for that region. This zoning system has influenced lots of families with children that urge for education.

The question 'Which floor are you in?' was given to determine how high-rise living affects residents' daily life. The answers looked at separately could not represent any specific meaning, since they are evenly distributed, except for the ones who live above 20 floors. One reason for this is that most of the skinny towers are less than 20 floors, which sets the building regulations on another level. Another reason, deduced from the interviews, is that most of residents are afraid of the over-height and concerned about safety issues.

When asked about why they chose their floor, 25 respondents stated that the chozen floor gives them a good view, which is reasonable given that 39.29% of the respondents live in the 6th-10th floors, which is in the middle of the tower where there is a good view and relatively good safety. The proper price was also stated by 20 residents, since in China the price goes up with each floor for bet-

ter views, sunlight, as well as operational and maintenance fee. Six respondents answered that all the other floors were sold out, it was the only choice, or we could see that the real estate market is still growing to meet costumers' needs. But for whatever reason, they are so popular, and the occupation rate in reality needs further discussion. The answer of

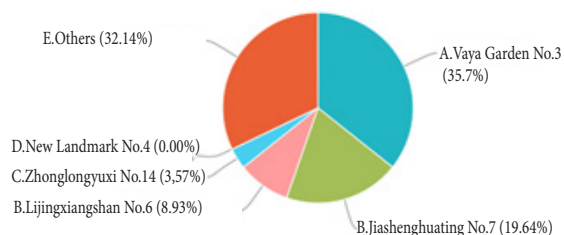


table 4. 'Q1. Which community are you from?'

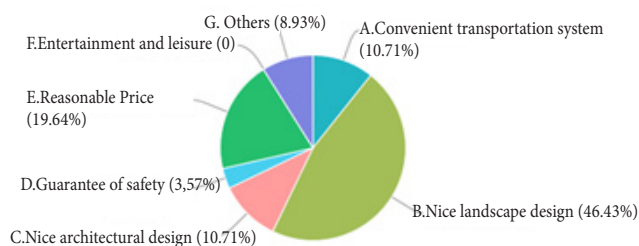


table 5. 'Q2. Why do you choose to live here?'

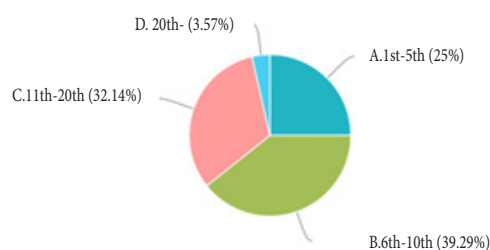


table 6. 'Q3. Which floor are you living on?'

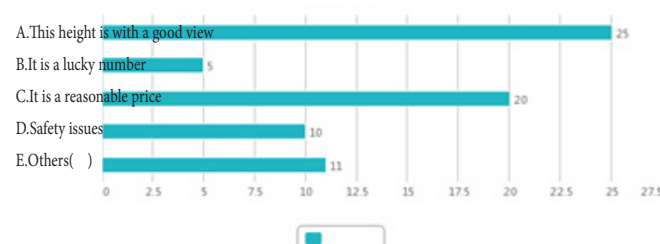


table 7. 'Q4. Why do you choose to live on this floor? (Multiple)'

‘Lucky number’(5) got several respondents, which hints that the superstition story is still going on, and numbers ending with 6 or 8, representing ‘luck’ and ‘fortune’ for Chinese, are the most easily sold, but numbers with connection to 4, which is synonymous with ‘death’, could hardly be sold, even with a discount or bonus.

Questions 5-7 investigate outdoor activities inside the gated communities.

Almost half of all the respondents (43%), in agreement with direct observation, mainly stroll casually with their family. Almost equally distributed are the respondents saying that they have to do physical exercise(27%), or they have to take kids out to play(25%). Surprisingly, only a few (15%) of the respondents say that they would like to go out and chat with neighbors.

When asked how often in a week they do outdoor activities inside the community, ‘once or twice in a week’ is the most frequent response, with almost half (22); and a similar size group (21) do this quite often, with a frequency of twice to four times a week. The group of respondents doing outdoor activities every day is not too small (13). Strolling after dinner is the most commonly found behavior of residents in China. As analyzed before, residents are looking for urban green space. In the case study area, where public parks are rare, greenery inside the gated communities was their preferred destination, especially in community No.3, Vaya Garden, where large area of forests was protected and provided inside the community. Martial arts and square dancing are also the main activities that the elderly residents do for exercise. This can also include using the outdoor gym situated on the ground floor. Childcare always involves certain amount of outdoor activity. For the Chinese residents, it is common to see retired grandparents come to join families with newly born babies. This combination stimulates communication between neighbors, since kids can play with each other without any worry.

The nice environment (33) and facilities (13) provided in the gated communities, are what support residents’ outdoor activities mainly, since all of them are nearby within walking distance (27). Fourteen respondents also sited safety issues, which are

what the gated community is trying to isolate itself from. To chat with neighbors is also a preferable choice, since residents don’t have many chances to meet neighbors inside the high-rise buildings.

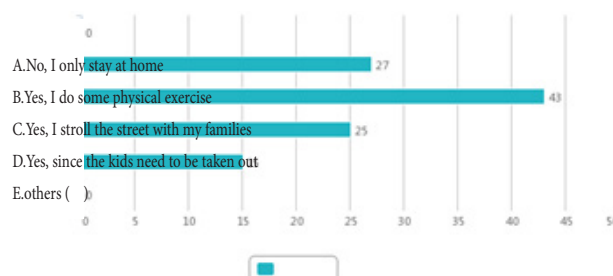


table 8. ‘Q5. Do you usually have any outdoor activities inside your district? (Multiple)’.

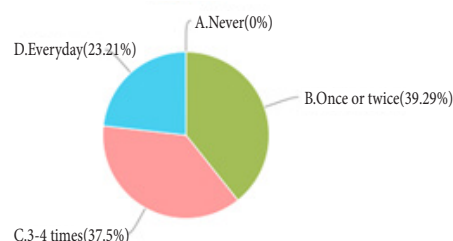


table 9. ‘Q6. How often do you have outdoor activities inside your district in a week?’.

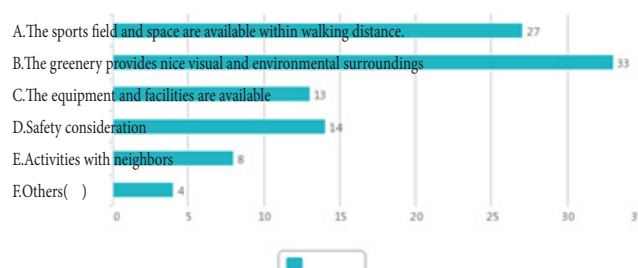


table10. ‘Q7.Why did you choose to have outdoor activities inside your district?’.

Question 8-10 concern where residents get fresh food supplies, since fresh raw material is so important for Chinese food preparation.

Almost half of respondents (41.07%) got their food from the nearby supermarket. Some of the respondents (25.0%) respondents choose to use the temporary market, while a few (8.93%) others made the same choice but using their own names for the same temporary market, so there are one third (33.93%) in total, who would go to the temporary market for fresh food. There is a sizable group of residents going to the formal wet market, 12 in total, which is also a considerable number. Finally, there are only 3.57% who do their shopping in the supermarkets inside the community.

Most of the respondents (42.86%) did their fresh food shopping three or four times a day, and one third (32.14%) of them would do it once or twice a week. One-fourth (23.21%) shop every day, and interestingly, the proportion of this frequency diagram can overlap the proportion of the frequency diagram of question No.6. This coincidence gives a hint of certain types of living habits of the respondents.

Freshness became the main issue for the residents who love to cook. As mentioned above, how traditional Chinese food and wet market is organized and maintained. The location of the market is also a main issue that would motivate the residents to purchase. This is somehow related to freshness, considering that the food could be preserved, or cooked in time.

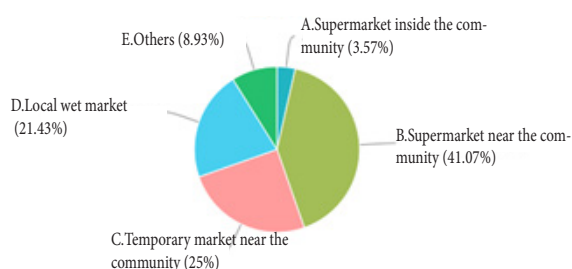


table 11. 'Q8.Where do you usually buy fresh vegetable and meat?'

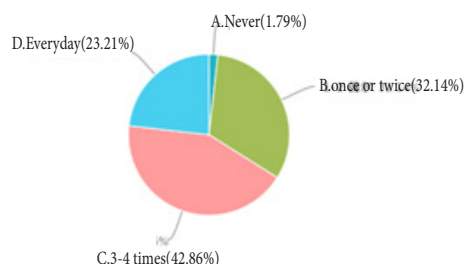


table 12. 'Q9.How often do you buy fresh vegetable and meat in a week?'



table 13. 'Q10.What are the reasons that you choose to buy them here?'

Questions 11-13 cover the night market, which contains ready-made food, garments and accessories.

Over half (32) respondents informed that they never do any shopping from the night market, stating that the illegal vendors do not ensure sanitation standards, which could be dangerous. Of those who do shop at the night markets, ready-made food (13) and accessories (12) are their choices. Three respondents would buy garments and the other two answered that, one goes seldom, and one with 'there is no proper night market in their neighborhood. However, the answers to this question do not explain the liveliness of the night market. But the answers conflict with observation of flourishing market. Since all the questionnaires were distributed within the gated communities, no responses were received from the other types of living, which are governmental projects and shantytowns. It may be suggested that the residents from governmental projects and shantytowns are customers for the night markets. In return, the liveliness of night market inhibits residents from getting out of the gate during the evening time.



table 14. 'Q11.Do you consume in the night market near your district?'

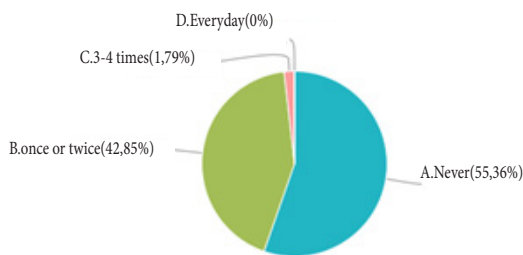


table 15. 'Q12.How often do you consume in the night market in a week? '



table 16. 'Q13.What do you consume in the night market?'

Questions 14- 16 are about the cross-gate activities. Do residents get out of their community and go into other communities? What do they do? How often and why?

A large quantity of residents (69.64%) does travel to other communities, but only a quarter of respondents (23.21%) would never do that. For those who would, it is mostly (32) because of the better outdoor environment of the neighboring community, and 15 answered that it is for leisure and entertainment. Visiting friends and relatives can also be a major reason why they would love to get out of their gate. Others who insist that they would not go state that there is no reason, since their community already have the best environment. Those who complain about the bad condition of their communities replied that they 'have to' go to other communities since the greenery and facilities are not as good as expected.

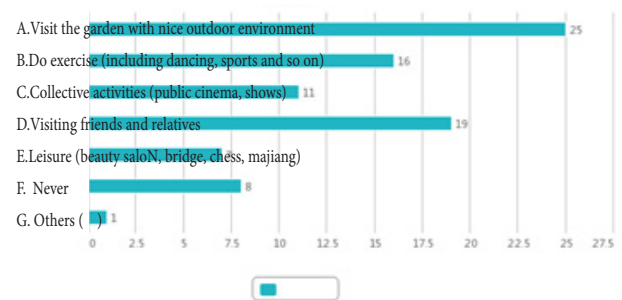


table 17. 'Q14.If you could go to other communities nearby, what would you do there? (multiple).'

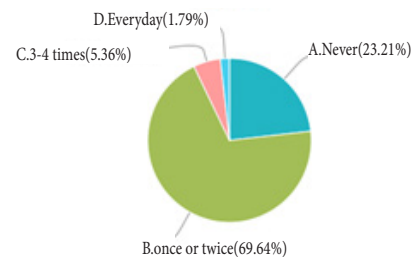


table 18. 'Q15.How often do you go to other communities nearby in a week?'

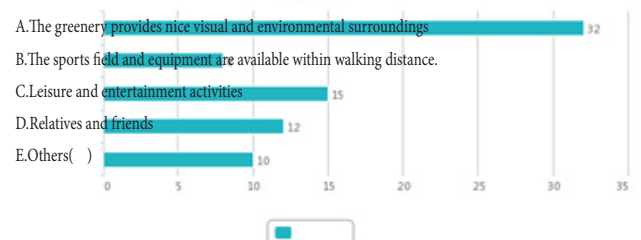


table 19. 'Q16.Why do you go to other communities?'

Questions 17 and 18 are open questions to gather ideas that would improve quality of life, inside and outside the gated community.

For life inside the community, there are many mentions (25) of the environment, which should be 'greener'. The second most mentioned issue is safety (21). Over five respondents mentioned that the guards are not effective, which is reflected in the high frequency of burglaries. Some of them (12) reported conflicts with the maintenance companies that are not providing proper service. There is also a group of residents (11) who call for better facilities.

To improve life outside the community, the respondents give many more answers. There are three major aspects of concern: transportation, facilities, and environment.

Facilities in general including a wet market, supermarket, hospitals and schools are mentioned 25 times, which tops the list. A formal wet market was mentioned the most among all of them, with over 6 times. The requirement for a better environment is next on the top of the list, with 23 mentions. Strong voices call for more public parks, and three voices complain about the noises brought about by heavy traffic. The traffic system is also problematic, with 20 mentions in general. Several voices call for public transport. Over five mentions the parking and privatized public road that leads to traffic jams. Surprisingly, there are two voices calling for the governmental logistic project to be removed from the neighborhood.

4.9 Result

In the diagram (fig. 4.64), the author describes space usage, throughout the day. The diagram is divided into two parts, by a border, which distinguishes the space outside of the gated community from inside. Percentage of space occupation is represented by percentage horizontally, and the active time line is uniformly graded vertically.

As it has been analyzed in the detailed time mapping above, activities outside the gated communities include, parking, a shopping center, residents and three types of temporary markets. Occupation of the morning market peaks early in the day and diminished drastically after 8:00. It gradually recovers after the residents come back from work, after 20:00, markets for other social groups occupy the space outside the gated communities.

Parking constantly crowds the street, and it does not necessarily decline with the flows of residents driving to work. One reason is that rising fuel prices encourage residents to reduce car usage as much as possible. These are same reasons for who would park their cars outside the gate. However, it is still necessary for them to keep a car for emergencies, or as evidence of status. Another reason is that all the offices inside the communities, continuously accept visitors, who, as might be expected, park their cars outside for free. Under such circumstances, the street is seldom free of parking, until the late night when all the businesses are closed for the day.

The percentage of shop spill-over is also quite stable, since they have a legal precedent that supports their extended territory, as long as they are

not too influential. They have a little peak during the evenings, to extend a bit more than is acceptable during the day time.

Residents' presences fluctuate with the temporary markets, in accordance with the three regular meals of the day. In the morning, it peaks with the appearance of the morning market. After that, the lunch break can also arouse sizable flows of people, when some residents or workers who do not cook for themselves come out of the gate to have lunch. A similar pattern is repeated during dinnertime.

As for the activities inside the gate, Outdoor exercise is quite unique in the Chinese context. It is mostly done by the elderly, who insist on the importance of regular physical exercise to keep healthy (the inclusive Design Research Group, 2010). The outdoor exercises are mostly done in the mornings, and consists of two groups, one before and one after breakfast. Then, there are also two other groups of exercisers before and after dinner.

Indoor working is not uncommon in gated residential housing in China, since renting price is not comparable to those of office buildings (Geren). After failing to sell a tower of apartment, due to their unpopular scale, which is too big for normal family (286 M²), and its round shape plan with a lot of irregular space, the investors of community No.3 even advertised the last residential tower as an office building. In this way, indoor work space is regulated inside the gated communities.

Outdoor leisure activities are obviously divided into three groups, according to three meals. During the day-time, it is mostly the kids and their caretakers who are enjoying the landscape within the gate. After the workday is over, other residents come out of the tower and stroll to help to digest their food and unwind from the day. Residents can be seen circling around and around in the gardens with their family, sometimes they chat with each other after getting to know each other's face. Indoor leisure also fluctuates with meals, and peaks during the evenings, especially after strolling outdoors.

In general, the diagram reflects the relationship between the outside and the inside of gated community. The activities outside influence what is inside, but, what is happening inside does not necessarily limit what is happening outside, since other groups of residents outside the gate continue to add liveliness to the street life.

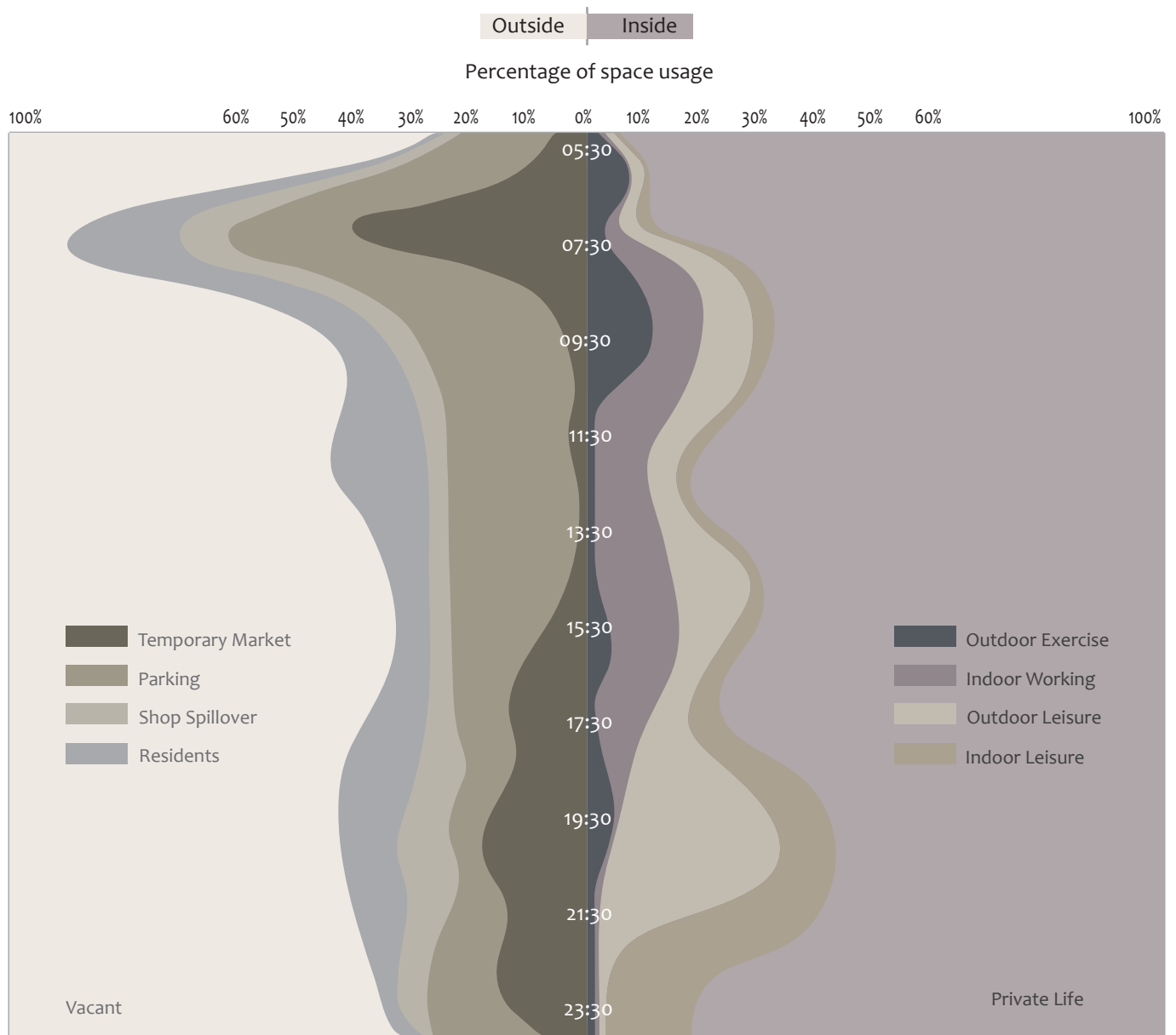


fig. 4.64 'Percentage of space usage.'
Source : Author

Chapter 5. Interventions

Scale	Weaknesses	Causes	Consequences
Planning	Superblock	Suburbanization & Zoning	City for Cars
	Irregular block	Decontextualization	Blockage and Inconvenience
	Shortage of Public Infrastructures	Residential Suburbanization	Informal Functions Resettlement and Fence-crossing
Interfaces	Fence and Wall	Privatization	Inactive Street Life, Inconvenience and Social segregation
	Left-over Space	Decontextualization	Inactive Street Life and Waste of Resources
Building	Repetition	Efficient Industrialized Production of Space	Tedious Cityscape
	Height	F.A.R. Pursuit of Profit	Decay of Community and Loss of Skyline
	Minimize Public Space	Pursuit of Profit	Neighborhood Disconnection
	Vacancy	Polarization	Waste of Resources

table 20 'Sum-up of Findings'.
Source: Author

5.1 Summary

Observation, interviews, and questionnaires result in the interventions. The table (table 20) sum-up findings from gated high-rise living in Changsha, including scales from planning to building. Activities inside the community (Q 5-7 & Q 14-16) indicate the importance of greenery and outdoor facilities for urban life. Every citizen, regardless of income or status, should be given the right to nature. Residents are requesting for greenery outside, at the same time, safe guard and fences could not stop people from appreciating nature inside. Intervention break the fence to improve the outside simply by making what is inside outside.

Markets are the best-storyteller of residents' daily lives (Q 8-10). The liveliness of temporary markets revealed insufficiency of markets. Transformations of players on the stage of sidewalk expose the problems of social segregation (Q 11-13). Residents are calling for more markets, schools, hospitals. Data also support the deficient amount of public infrastructures, while for some cases these infrastructures are simply blocked by the Superblocks. Blockage clearance, implementations, integrations and diversification will fulfill residents' needs and promise a sustainable neighborhood.

Private car dependency of residents repressed complains of insufficient public transportation, privatization of public road, and neglected street life. Private car dependency also hints the planners to de-

sign the suburb for cars instead of people. To help the suburb areas recover from its illness, planners should avoid Superblock, densify network of road and public transportation. Finally the city is given back to its people.

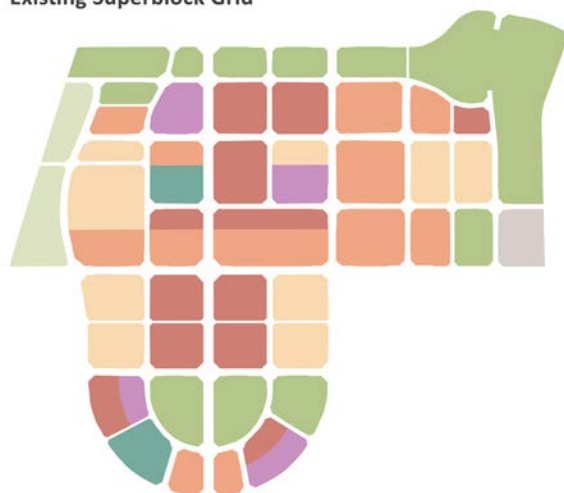
5.2 Macro Scale Planning

Residential suburbanization in China has given the permission of presence of gated super-blocks. The super-blocks take the form of gated communities with towers and park-style, which become physical and social enclaves for its suburban context. 'At up to a quarter of a mile to an intersection and often eight lanes of automobile traffic across the street, walking and biking in these districts is difficult and dangerous. (P. Calthorpe, 2013)'. To give the city back to people, instead of the cars, the super-blocks will be break down, and the roads will turn to streets.

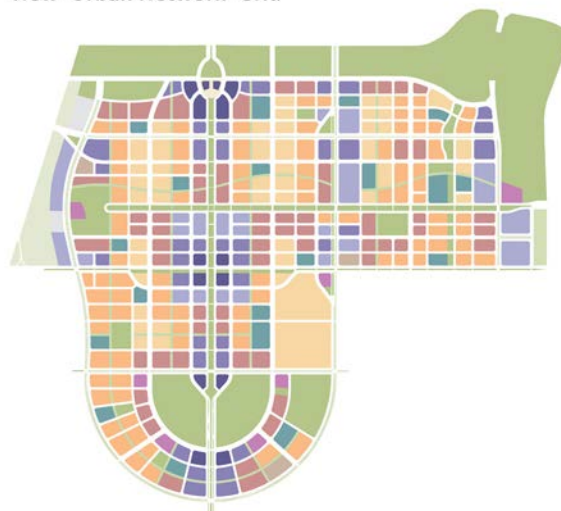
In the redesign project of 2,500 acres, P. Calthorpe (2013) and his firm give the superblocks a breath (fig. 5.0), by breaking them down to human-scale, traditional courtyard blocks,

'The streets are smaller and more frequent, among which many are car free or dedicated for transit. Parks are smaller but closer and safer with housing overlooking each. Mixed-used buildings with side walk oriented shops and cafes rebuild the street-life that was once a hall-

Existing Superblock Grid



New 'Urban Network' Grid



Comparison of land use plans for Chenggong: original Superblock grid (above) and redesigned Urban Network grid using 'Small Blocks' (below)

fig 5.0 'Comparison of Land use plans for Chenggong'

Source: P. Calthorpe

<http://www.metropolismag.com/Point-of-View/August-2013/The-Real-Problem-with-Chinas-Ghost-Towns/>



fig 5.1 'Intervention 1, Missing Connections'

Source: Author



fig 5.2 ‘Intervention 2, Breaking Superblock.’
Source: Author



fig 5.3 ‘Intervention 3, Contextualization, Deprivatization, and Diversification’
Source: Author

mark of older Chinese communities.

However, as the local government stated, the current situation is difficult to be changed. At least, the planning office should not take it for granted that the suburban land property is ‘nowhere’, and could be dealt with by color zoning map, in the future. What is more, the scale of each residential block should be strictly controlled, so that the density does not exhaust the urban space. Finally, public infrastructures should

not be forgotten, especially in the suburb, where all new projects are sprawling.

Given the context of suburban super blocks, I try to break down the scale of each block. The new scale is based on the existing gated fabric. There are three ways to break the fences, following the analysis:

Firstly, to clear the blockage. Breaking down the irregular forms of blocks to smooth the context, for example, the longitude of community No.3 is divided so that the road structure on both side could be

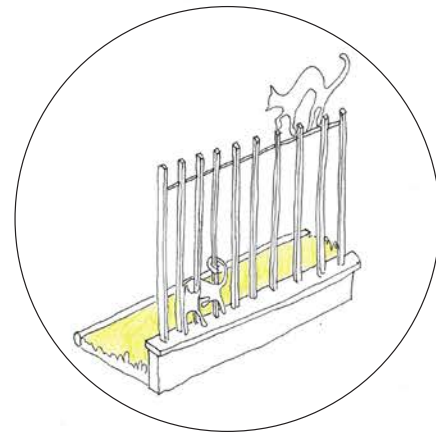
connected and green corridor will ensure the safety and convenience of school children; the same method is used to deal with community No.7, since its irregular shape disconnect the residents from reaching the supermarket.

Secondly, to fulfill the needs and make most of facilities. Outdoor gyms and greeneries inside the gate will be deprivatized, and shared within the neighborhood. New gates on the fences encourage residents to enjoy the lively neighborhood. For instance, large amount of greenery and sports facilities in community No.3 and No. 14 will welcome everyone to enjoy.

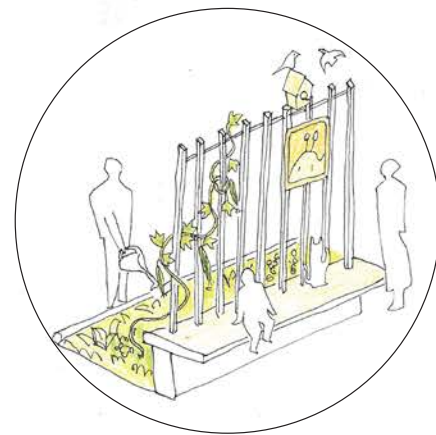
Thirdly, to encourage interactions. Since flows are converged in the space between entrances. Entrances call for interactions, fences will be interrupted when they are facing the entrances of neighbor communities, including governmental projects and shanty towns. For example, community No. 8 and No. 16 will have more interaction with their neighbors by meeting the flows.

5.3 Diversification

After breaking down the super blocks, interfaces will be resettled with new functions. Residents are accustomed to fences, since the fences are more symbolic than functional. Except for being the physical border, the fence can be something else. The fences are not fences according to the logic of wild nature, where there is no salary, and animals are always playing with the fence. Inspired by the wild nature's logic, inactive interfaces (fig. 5.4): art work can be exhibited along the boring walk; little birds might find their new home in the fence; fence can be reshaped to provide seats for passers-by; vegetables are planted along the fence, which provide them structure support, and activities like farming and seating will encourage over-fence interactions.



Before



After

fig 5.4 'Comparison of Fence use'.

Source: Author



fig 4.14 'Xinyu Road 2', Yuhuangongguan (No.15) on the left background, Sanjiang huazhongcheng (No.10) on the right side, opposite to govermental project. Source: H. L. Liu



fig 5.5 'Reuse of space as library'.

Source: Author

The failed interface of potential commercial space will be filled with second hand books and furniture (fig. 5.5). The wealth gap causes few to participate in anything in a world of fear, conflict and hostility. Every family can live their lives, no matter poor or rich, with respect. But for most people respect is measured in money (Richard G., 2005). All in all, gates and walls are not solutions to social fragments; on the other hand, they are the negative compromise to social inequality. Library is where equality could be found in the city, since knowledge could not be measured by money. Children of poor or rich could find their space in the public libraries. The second hand books and DVDs from the rich gated communities will be shared to the public, in the vacant space originally designed for commercial purpose.

Road Back to Street

Residents and temporary markets have already taken the road back in their own way, but its condition can be developed so that it can benefit everyone includes the city. Currently, most of sellers and buyers are squatting or sitting on the ground, and leave only one thin lane less than 1 m for passers-by from both directions. Even the rain could not stop the temporary market. To improve the quality and meet the needs, the formal road market will be established along the road, its structure is transformable to fit into the functions. During the normal hours, the tables are

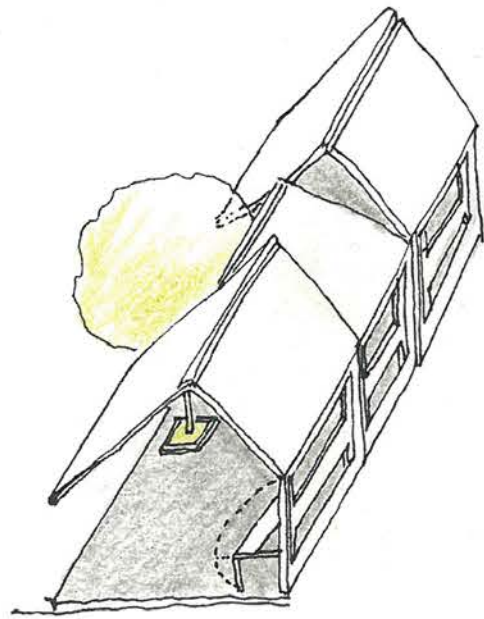
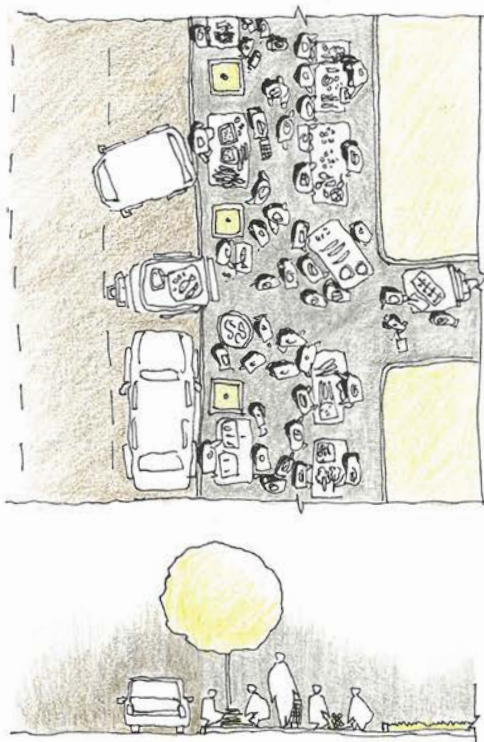
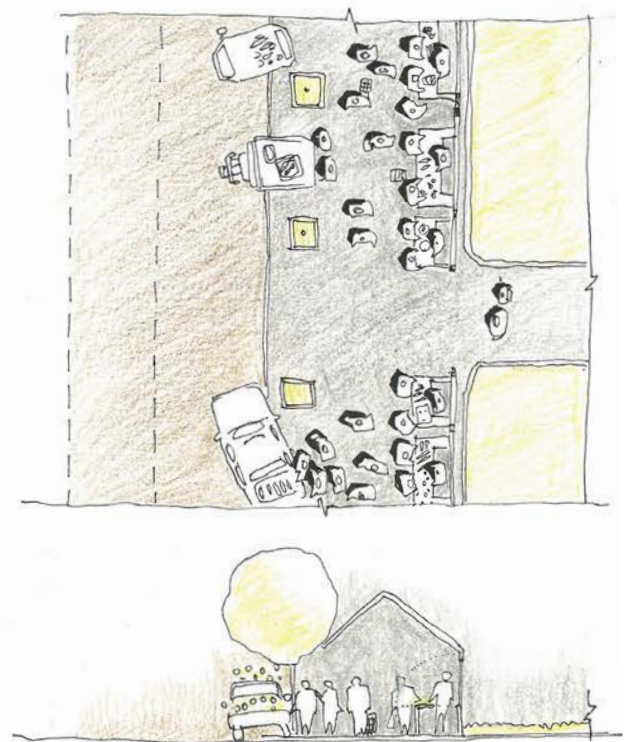


fig 5.6 'Redesign the Road Market 1'.
Source: Author



Before



After

fig 5.7 'Redesign the Road Market' 2.
Source: Author

lifted up so that only the roof is functioning to shed the pedestrian paving; when the market rush is coming, tables are put down for displaying the goods, and standing trade will give more space for passers-by in-between (fig. 5.6 & fig. 5.7).

5.4 High rise living

Numbers and Control

Numbers are set to control the city at the beginning, but the city is controlled by the numbers in the end. F.A.R. figure is questionable of its flexibility. When F.A.R. lost control, the sky-line is written with profit. It is not the first time in Chinese history to have mass production and superficial growth, influences from the 'Great Leap Forward' have long been existing. Numbers should be strictly controlled to ensure a future that value quality over quantity.

Morphology

High-rise housing design can have many more possibilities, other than duplicated towers. its morphology can be redefined to take advantage of its height and density (fig. 5.8 & fig. 5.9).

Skygarden and skycourt

Home is defined largely by neighborhood and its relaxed social life, green open space are designed from the left over and become integral part of its planning. By Sky Park, Singapore "green the verticality"(William S.W LIM, 1990:66). Sky garden and sky court could be regarded as alternative social spaces within the residential tall building typology for the 21st century that vertically reinterprets the func-



fig. 5.9 'BIG designed high-rise in Taipei'.
Source: <http://inhabitat.com/pixelated-residential-complex-maximizes-light-and-green-space/>



fig. 5.8 'OMA designed high-rise in Singapore'.
Author: Iwan Baan
Source: <http://archrecord.construction.com/projects/portfolio/2014/03/1403-The-Interlace-Buro-Ole-Scheeren.asp>

fig. 5.10 & fig. 5.11 'Urban Farming in Hong Kong'.
Author: Zhang Zeduan (1085-1145)
Source: <http://green-living-hk.blogspot.fi/>

Scale	Weaknesses	How to Solve?	Who is involved?
Planning	Superblock	Breaking Down the Scale for People instead of Cars. Implement Public Transportation and Change Road to Street / Encourage Car-less Life Style	Planners / Developers / Residents
	Irregular block	Contexturalization / Long Term Consideration for Residents' Daily Lives	Planners / Developers
	Shortage of Public Infrastructures	Public Infrastructure Regarding to Population Density & Residents' Daily Lives	Planners
Interfaces	Fence and Wall	Break Down and Diversify the Fences and Walls	Planners / Developers / Architects / Residents
	Left-over Space	Contexturalization, Diversification, and Functional Resettlement	Planners / Developers / Architects
Building	Repetition	Variation of Archetypes and Functions	Planners / Developers / Architects
	Height	Strict Restrictions	Planners / Developers
	Minimize Public Space	Add to Quality and Quantity of Public Space and Public Activities	Developers / Architects / Residents
	Vacancy	Vacancy Control and Functional Resettlement	Developers / Residents

table 21 'Suggestions for Future Design'.
Source: Author

tions of their historical forebears. In Singapore, aptly demonstrates the incorporation of sky courts for its socio environmental benefits.

Vertical Farming.

Climate permits vegetables to grow all the year round in Changsha, why not the high-rise living (fig. 5.12)? By vertical farming, lost land resources are re-generated; local vegetables are produced (fig. 5.10 & 5.11); common activities will unify the family and community. 40% of the buildings are left empty; the space will promise productive farm land.



fig. 5.12 'Urban Farming in Changsha'.
Source: H. J. Liu

Chapter 6. Conclusions

Literature review inspired the research in two ways. Firstly, the theoretical framework was built up. Concepts, definitions and categorizations helped to understand the historical and contemporary gated communities, high-rise living and daily lives of the residents. Socialist countries face similar conflicts of social segregation. In the context of China, the collapse of 'Lifang' gated community system provides a strong support for the argument; the liberation of market and individualism plays important role in the prevailing of gated high-rise communities; special food habits influence the transformation from wet market to supermarket; public accessibility of greenery remains questionable. Secondly, relative methods were introduced to investigate the case study and evaluate the quality of living.

The context of the study give answers to the search questions. The super-scale and irregular shape of gated communities have fragmented the urban fabric, which bring inconveniences for citizens, both inside and outside the enclaves. Google map fabric inspired the research work to be developed in a more thorough way, towards the real neighborhood. Social and spatial inequality is one of the main characteris-

tic brought out by state capitalism. Interfaces for the communities are not functioning well as the original design, due to insufficient consideration for its social and physical context. Fences and gates are functioning less for safety reasons, and more for privatization of public space. However, insufficient public space, in return, pushes the privatized space to become public again. The existence of fences and gates is questionable. Physical barriers and divisions, however, do not only establish physical exclusion, but can enhance political exclusion as well (Landman 2000, 4). They arguably weaken the concept of citizenship.

High-rise may be suitable for the context like Hong Kong, Singapore, but not necessarily for China, especially in the suburb, where population urbanization could not catch up with land urbanization, and urban infrastructures are far from sufficient. High-rise is the representation of 'naked capitalism'. Land urbanization with the help of high-rise blocks the sky and breaks social diversity. Residents do not realize the importance of sky or community until they lose it. The virtuous circulation of escaping for more sky makes it no escape for anybody.

The questionnaire design is narrow, only targeting the residents inside the community. Even though most of the residents are satisfied with their living inside the community, just like what is designed to be, the environment and activities outside the communities have much potential to be improved. Car oriented suburban context can be improved to encourage its own social life. Residents do not have to be divided by social or physical borders. More opportunities could be provided by sharing the same neighborhood.

Conclusion after intervention is summarized (Table 21) The suburb area might be empty on the city planning map before it is urbanized, but they should not be simply zoned without context consideration in reality. The social and physical borders made by the enclaves of gated communities will not solve social inequality problems. Sky parks, vertical farming and morphologies can bring new life to the high-rise towers, but they are nearly compromises after the ready-made reality. Interventions of functional resettlements will encourage social diversification; the diversification promise lively street life, since its function differs from the designed commercial street life vision. Non-commercial functions include libraries, exhibitions, galleries, cinemas, gyms, second-hand shops, space for workshops, and so on. These functions with no commercial purpose will give rise to social equality. Sustainability contains three domains: social, environmental and economic. In the policy-guide planning

system, in Sweden and Finland, all planning activities and decisions on land use are taken by the planning authorities according to the planning policies. The planning policies and social welfare system keep the sustainable circulation. For the special case study, the High-rise Living in Changsha, could hardly fulfill any of sustainable standard. Socially, inequality and income gaps segregate the citizens and break the community ties. In Finland the housing policy is based on the geographical social mix to prevent the formation of poverty enclaves. Environmentally, large areas of farm land were occupied; the building environment is only designed and taken care of inside the gate. In the economic domain, 40% of vacant rate proved that resources are not efficiently utilized; meanwhile, raised housing price is beyond reach of average citizens, leading to virtuous social circulation. The study calls for integrating of sustainability in the early stages of planning and to improve and activate the planning assessment studies. To minimize the income gap and social segregation, taxation and welfare system will have to be developed. Planning work can be much more detailed, regulated, and localized. In the zoning system, scale and function for each property should be considered carefully, and large amount of field study should be made to ground the planning. F.A.R. is closely related to population density and common facilities, numbers are just numbers, they are easy to follow; meanwhile, numbers are not just numbers, they contain much more than numbers. Developers who simplify the game would see the same failure as Pruitt-Igoe. The planning office should remain all the rights of control for the development, from the planning to maintenance.

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